



EVIDENCE

GIVEN BEFORE

Royal Commission

ON

VIVISECTION,

BY

GEORGE R. JESSE.



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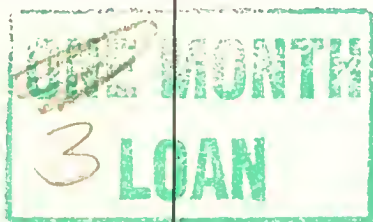
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E V I D E N C E,

GIVEN BEFORE THE

ROYAL COMMISSION ON VIVISECTION.

EVIDENCE,
GIVEN BEFORE THE
ROYAL COMMISSION ON VIVISECTION.

BY
GEORGE R. JESSE,
AUTHOR OF
"RESEARCHES INTO THE HISTORY OF THE BRITISH DOG," ETC.

"The Earth is wronged by Man's oppression."
SHAKSPERE.


LONDON:
BASIL MONTAGU PICKERING,
196, PICCADILLY.
1875.

TO
THE FRIENDS OF THE WEAK;
THE DEFENDERS OF THE OPPRESSED;
AND
THOSE WHO OPEN THEIR MOUTHS FOR THE DUMB;

This Book is Dedicated,

BY THEIR FELLOW LABOURER IN THE CAUSE,

GEORGE R. JESSE.



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PREFACE.

FROM the Royal Commissioners, although he attended by their request, Mr. George R. Jesse regrets to state he received little countenance or encouragement (with one solitary exception, Lord Winmarleigh,—who, however, was only present on the first day). The Evidence given on the part of the Society seemed to be distasteful to the Commissioners; some appeared hostile to the admission of facts, or wore an air of being bored; their minds, already made up, and disinclined to receive information.

The Commissioners were, sometimes, excessively unpunctual, and made slight, or no apology for it. Viscount Cardwell, in several instances directed the Shorthand-Writer not to put down observations made by the Witness.

The Report, though applied for, has never yet been granted to the Society for the Abolition of Vivisection, although placed long since in the hands of ultra-

Vivisectionist Journals, and Societies which advocate Legalising the Dissection and Torture of Living Animals.

The Friends of Animals never felt confidence in a Commission containing two men, at least, amongst its Members, who are, or were, Vivisectors—men who ought to have appeared before it as Witnesses, not sat upon it as Judges. It is to be hoped, that Her Majesty's Government when it appointed them, was unaware of their opinions, their writings, and their practices.

March, 1876.

SOCIETY
FOR THE
ABOLITION OF VIVISECTION,
OR
PUTTING 'ANIMALS' TO DEATH BY TORTURE
UNDER ANY PRETEXT WHATEVER.

The object of the Society is a Law for the total Suppression of Vivisection. To call on the Legislature for less would be to admit the principle (and thereby perpetuate the enormity) that man is justified in selfishly inflicting agony on the innocent.

Opponents of the Slave Trade agitated not for restriction but abolition. The wrongs perpetrated by man on 'animals' are even more dire than those inflicted by him on his own species.

Persons desirous of joining the Association can communicate with GEORGE R. JESSE, Esq., *Henbury, Macclesfield, Cheshire.*

This Advertisement appeared in 'The Times' and 'The Morning Post' in February, 1875.

SOCIETY

FOR THE

ABOLITION OF VIVISECTION.

This Society numbers amongst its Subscribers the following, and other persons of distinction :—

Prince Batthyany.
 The Marquis Townshend.
 The Marchioness of Westminster.
 Lady Theodora Grosvenor.
 The Earl of Charlemont.
 The Countess of Charlemont.
 The Countess of Clare.
 The Countess of Albemarle.
 The Countess of Dundonald.
 Lady Anna Gore Langton.
 Lord Calthorpe.
 Lady Abinger.
 Lady Hawley.
 Lady Harriet Warde.

Professor W. B. Hodgson, LL.D.
 The Hon. Mrs. Cowper-Temple.
 The Hon. Mrs. Annesley Gore.
 Sir Alexander Malet, Bart., K.C.B.
 Lady Malet.
 Sir George Duckett, Bart.
 Lady Duckett.
 Sir R. Lighton, Bart.
 Sir Walter R. Farquhar, Bart.
 Sir Arthur Hallam Elton, Bart.
 General Jephson, C.B.
 General Hutchinson.
 Professor Francis W. Newman, &c.

The object of the Society is a Law for the total Suppression of Vivisection, or putting animals to death by torture under any pretext whatever. To call on the Legislature for less would be to admit the principle (and thereby perpetuate the enormity) that man is justified in selfishly inflicting agony on the innocent.

Opponents of the Slave Trade agitated not for restriction but abolition. The wrongs perpetrated by man on animals are even more dire than those inflicted by him on his own species. The Abolition of Slavery was confessedly an act of high Christian philanthropy, and surely it is no less noble or less Christian to stop the sufferings of other helpless creatures of our God.

The hideous cruelty of dissecting living animals, or inflicting on them, though innocent and defenceless, multitudinous deaths of excruciating and protracted agony, has secretly grown up in this Nation—a Nation which for ages past has been nobly distinguished by the courageous and unsanguinary character of its people.

This moral ulcer has spread widely, and (whether it be or not a dreadful form of insanity) become dangerous and demoralising to Society—a blot on Civilisation—a stigma on Christianity. The public has little idea what the horrors of Vivisection are; its crimes in studied, ingenious, refined, and appalling torture—in wantonness, uselessness, and wickedness—cannot be surpassed in the annals of the World. It therefore calls for extirpation by the Legislature; cruelty being not only the worst of vices in itself, but the most retributive to mankind, more especially when perpetrated by the refined and educated.

GEORGE R. JESSE, Esq.

Henbury, Macclesfield, Cheshire.

VIVISECTION.

*Return to an Address of the House of Lords, dated 9th
July, 1875, for Copy of the Royal Commission on Vivisection.*

(L.S.) (Signed) VICTORIA R.

VICTORIA, by the Grace of God of the United Kingdom of Great Britain and Ireland, Queen, Defender of the Faith. To Our right trusty and well-beloved cousin and councillor Edward Viscount Cardwell, Our right trusty and well-beloved councillor John Baron Winmarleigh, Our right trusty and well-beloved councillor William Edward Forster, Our trusty and well-beloved Sir John Burgess Karslake, knight, Our trusty and well-beloved Thomas Henry Huxley, esquire, professor of natural history in the Royal School of Mines, Our trusty and well-beloved John Eric Erichsen, and Our trusty and well-beloved Richard Holt Hutton, esquire, greeting.

Whereas We have deemed it expedient that a Commission should issue to inquire into the practice of subjecting live animals to experiments for scientific purposes, and to consider and report what measures, if any, it may be desirable to take in respect of any such practice.

Now know ye, that We, reposing great trust and confidence in your zeal, ability, and discretion, have authorised and appointed, and do by these presents authorise and appoint you, the said Edward Viscount Cardwell, John Baron Winmarleigh, William Edward Forster, Sir John Burgess Karslake, Thomas Henry Huxley, John Eric Erichsen, and Richard Holt Hutton, to be Our Commissioners for the purposes aforesaid.

And for the better enabling you to fulfil the objects of this Our Commission, We do by these presents give and grant unto you, or any three or more of you, full power to call before you, or any three or more of you, such persons as you shall judge necessary, by whom you may be the better informed on the subjects herein submitted for your consideration, and every matter connected therewith, and also to call for, have access to, and examine all such books, docu-

ments, and papers as may afford the fullest information on the subject, and to inquire of and concerning the premises by all other lawful ways and means whatsoever.

And Our further will and pleasure is that you, or any five or more of you, do with all convenient speed report to Us, under your hands and seals, your opinion upon the matters herein submitted for your consideration.

And We do further will and command, and by these presents ordain, that this Our Commission shall continue in full force and virtue, and that you Our said Commissioners, or any three or more of you, may from time to time proceed in the execution thereof, and of every matter and thing therein contained, although the same be not continued from time to time by adjournment.

And for your assistance in the execution of these presents, We have made choice of Our trusty and well-beloved Nathaniel Baker, esquire, barrister-at-law, to be secretary to this our Commission, whose services and assistance We require you to use as occasion may require.

Given at Our court at Saint James's, the twenty-second day of June 1875, in the thirty-ninth year of Our reign.

By Her Majesty's Command.

(206)

(Countersigned) RICHD. ASSHETON CROSS.

Ordered to be printed 13th July, 1875.

VIVISECTION.

FIRST DAY'S EVIDENCE.

NOVEMBER 1ST, 1875.

Present :—

The Right Hon. VISCOUNT CARDWELL, *in the Chair.*

The Right Hon. LORD WINMARLEIGH.

Sir J. B. KARSLAKE, M.P.

THOMAS HENRY HUXLEY, Esq.

JOHN ERIC ERICHSEN, Esq.

RICHARD HOLT HUTTON, Esq.

N. BAKER, Esq., *Secretary.*

Mr. GEORGE RICHARD JESSE *called in
and examined.*

4435. *The Chairman:* Are you in any profession?—
I am retired from one.

4436. Will you have the kindness to tell us what it
was?—Railway Engineer.

4437. I think you are the Honorary Secretary of the
Society for the Abolition of Vivisection?—Yes.

4438. Are you prepared to make a statement to this
Commission on behalf of that Society?—I am.

4439. Will you have the goodness to do so?—As
already stated in a letter to this Commission, I appear
at its request, not as a medical or scientific witness.

My opinion as to vivisection has been arrived at by intimacy and close friendship with animals, the perusal of books written by vivisectors, and conversation with medical and other men, some of whom have witnessed the torture of animals for so termed scientific objects. I am, on the part of the Society for the Abolition of Vivisection, prepared to amply and fully establish that the cruelties of vivisectors are not surpassed by any recorded in the history of mankind. I am prepared to establish that by furnishing extracts from the books written by those men themselves. I wish also to produce correspondence between some of those men and our Association; moreover, extracts from the life of the late Dr. John Reid of St. Andrews, and the life of Sir Astley Cooper. That these practices are becoming a moral ulcer, that they tend to demoralise mankind, and are by education vitiating the minds of the young, I wish to prove by the above and other works, and by reading extracts from Youatt's 'Humanity to Brutes,' (the famous veterinary surgeon,) Dr. Elliotson's 'Human Physiology,' Lockhart's 'Life of Sir Walter Scott,' Drummond's 'Rights of Animals,' Dr. Ferrier's experiments, Dr. Bennett's experiments, and other books, including 'Elementary Lessons in Physiology,' 'The Quarterly Review' for 1849, and also by publications of the Society for the Abolition of Vivisection. The Society for the Abolition of Vivisection—which contains many professional men amongst its members, peers, professors, officers in Her Majesty's service, and others—wishes to make known through this Commission to the People of England the deeds that have been done, and the opposition to the exposure of them it has

met with from the unfair conduct of the 'Times,' the 'Standard,' and the 'Pall Mall Gazette.'

4440. Can you put in a list of the members of the Society?—Not at this moment.

4441. But you can send one to the secretary, I presume?—I could not quite pledge myself to that, because there are some who are members and who would not like their names to be known.

4442. We only wish it to be understood by us correctly whether you are prepared to send in a list or not. I understand that you are not?—No, excuse me, that would be an erroneous impression. I am prepared to send in a list of the people who have given their names to the Association, and which comprises by very far the greater number of its members. I am prepared to give that, but, of course, I cannot in honour give the names of men who wish their names to be private. If you like, I will apply to those men also.

4443. Will you have the goodness to proceed with your statement?—This is one of the first that comes to hand. 'The British Medical Journal,' December 5, 1874: 'Report of the Committee of the British Medical Association to investigate the antagonism of medicines, by John Hughes Bennett, M.D., F.R.S.E., Chairman and Reporter.' I should only take up time, I think, unnecessarily, by reading a great deal of this. I will come to the part, if you will allow me, which is most cogent to the point. 'Experiment 473. —A male cat, weighing 4 lbs. 9 ozs., had 6 grains of theine injected under the skin of the back. For five minutes nothing was observed. At the end of this period it began to move backwards and forwards, and

‘ the excitement gradually increased until the close of
‘ fifteen minutes after the administration of the drug,
‘ when it seemed to be frantic. These fits of intense
‘ cerebral excitement afterwards occurred at intervals
‘ of two or three minutes ; between them the animal
‘ lay quiet. It appeared to be extremely susceptible
‘ to irritation. A stick brought near it was imme-
‘ diately bitten. Salivation became very profuse.
‘ Twelve minutes after the dose had been given the
‘ cat had difficulty in moving its posterior extremities.
‘ This difficulty gradually passed into complete para-
‘ plegia. Thirty minutes after, it could not move the
‘ hinder part of its body, but its senses were very
‘ acute. The animal noticed every movement made
‘ near it, and it tried to bite. The paralysis gradually
‘ invaded the fore extremities also, and the cat was
‘ unable to sit up. It lay with its head slightly raised,
‘ but still there was the same acuteness of the senses
‘ of hearing and vision, and it was easily irritated. It
‘ remained in this condition for an hour and a half,
‘ when, after two very severe clonic spasms, it died.
‘ The narrative of the above experiment indicates
‘ intense cerebral excitement associated with gradual
‘ loss of the functions of the spinal cord.’ In regard
to some experiments I have here, the Society has made
extracts from them and printed them, and we have
taken out the pith of them, as we consider, and it may
save your time if I read what we printed. I can leave
the document with you, so that you can verify it.

4444. Will you read it, if you please?—It is No. 13
of our publications. ‘*Facts*: “Thine own mouth con-
“demneth thee, and not I. Yea, thine own lips

“testify against thee” (Job xv. 5, 6). As it is often asserted that the practices of vivisectors are exaggerated, this Society brings forward more examples of them. “Experimental Researches in Cerebral Physiology and Pathology,” by David Ferrier, M.A., M.D. (Edin.) M.R.C.P., Professor of Forensic Medicine, King’s College, London; Assistant-Physician to the West London Hospital. “I have to thank Dr. Crichton Browne for kindly placing at my disposal the resources of the Pathological Laboratory of the West Riding Asylum, with a liberal supply of pigeons, fowls, guinea-pigs, rabbits, cats, and dogs, for the purposes of my research. The animals were extended on boards, the head and limbs first tried with cords, which were afterwards relaxed. The brain was exposed by sawing away part of the skull; the surface then extended by pincers, and electrical shocks, or irritation, given through copper wires applied to it. Concentrated chromic acid was also squirted into the brain, through a small hole in the skull. Experiment I. Medium-sized guinea-pig. Narcotised with chloroform, and the greater part of left hemisphere exposed. The animal was then placed on the floor, and watched. On recovery from stupor, the body becomes curved from left to right—the head touching the tail. Active movements of the fore-legs are made, causing the animal to rotate round from left to right. Sometimes the animal makes violent struggles, and falls on its back. When the muscles of the right side are forcibly overcome, the state of pleurosthotonus returns on removal of the resistance.

“ When placed on its right side, the animal makes
“ rapid movements with both fore- and hind-legs, as
“ in running, but it is unable to alter its position.
“ When placed on its left side, it becomes curled from
“ left to right, as before, and regains its feet. The
“ pleurosthotonus and movements of the legs occa-
“ sionally remit. Half-an-hour after the animal is
“ able to rest quietly on its feet, but with the head
“ directed towards the tail, from left to right. The
“ animal was then, forty-five minutes after the opera-
“ tion, again narcotised, and submitted to electric
“ stimulation; but death took place, probably from an
“ overdose of chloroform during the first application
“ of the electrodes. Apparently, the brain retained
“ its excitability; but I discovered that the move-
“ ments induced by stimulating different parts, and
“ which were on the left side, were in reality due to
“ conducted currents from too strong stimulation. The
“ inferences I subsequently drew from the experiment
“ were, that the vital irritation consequent on expo-
“ sure of the hemisphere, acted on the muscles of
“ the opposite side of the body, through the corpus
“ striatum, causing tetanic spasm and pleurosthotonus.
“ The next experiments were undertaken with a view
“ to ascertain,” &c. “ Several rabbits and cats were
“ employed for this purpose,” &c. After detailing the
“ above, Dr. David Ferrier proceeds to assert: “ It
“ may be mentioned here, once for all, that before and
“ throughout all the following experiments, ether or
“ chloroform was administered.” The natural inference
“ from this qualified statement must necessarily be that
“ narcotics were not administered in all the *previous*

‘ experiments. Whether in later ones they were always
‘ given or not, or given to render the creatures help-
‘ less; whether the details now published invalidate
‘ the assertion of Dr. David Ferrier, whether intense
‘ and protracted agony was inflicted, may be esti-
‘ mated by these extracts from a mere preliminary
‘ instalment of a more extended and complete inves-
‘ tigation, as these “experiments” are termed by Dr.
‘ David Ferrier. The public may, perhaps, realise
‘ from them what is the significance of the phrase,
‘ experimenting on animals under anæsthetics. “Ex-
‘ periment III. The next experiment was made on
‘ “a large, strong cat. The skull was removed,” &c.
‘ “The animal was only *partially* narcotised,” p. 68.
‘ “My experiments, therefore, had to be extended over
‘ “a very great many different animals,” &c. “With
‘ “and *without* chloroform, the application of the
‘ “electrodes apparently produced no effect, the animal
‘ “remaining perfectly quiet. Occasionally, during
‘ “application of stronger currents, the animal exhibited
‘ “restlessness, and uttered cries; but they did not
‘ “indicate anything further than the usual restlessness
‘ “and cries of guinea-pigs when under experimenta-
‘ “tion,” p. 69. “In addition, also, the position of the
‘ “animal’s head, and its condition as to anæsthesia,
‘ “seems to modify the results,” p. 77. “In confirma-
‘ “tion of these same results, I observe in my notes
‘ “of experiments made on a rabbit, already alluded to
‘ “(p. 36), that after about two-thirds of the superior
‘ “surface of the left hemisphere had been exposed, the
‘ “animal ultimately recovered, but the whole of the
‘ “exposed part became the seat of suppuration and

“fungus cerebri; so that the greater part of the cortical substance was rendered entirely functionless. “During the five days intervening between the first “operation and the second, which necessitated its “death, the animal had apparently recovered perfectly, without any distinct paralysis of the opposite “side; but it had lost its natural sense of timidity, “and regarded things which at other times would “have frightened it with a degree of stupid unconcern. It was also observed that though there was “no distinct paralysis of the right side, the animal “always had a tendency to run in a circle towards “the right,” &c. The following are some of the “scenes which ensued in regard to a cat:—“Experiment IV. The greater part of the right hemisphere “of a full-grown cat is exposed. The animal lies “breathing quietly in the *semi*-narcotised condition,” &c. Observation 6. “The animal exhibits signs of “pain; screams, and kicks with both hind-legs, especially the left.” Observation 12. “The animal exhibited signs of pain, screamed, and kicked out with “its left hind-leg, at the same time turning its head “round, and looking behind in an astonished manner.” Observation 18. “Repeated opening and closing the “jaws. The tongue was seen often to be protruded “and retracted.” Observation 19. “While the temporo-sphenoidal gyri were being further exposed, “the animal bit angrily, and gnawed its own legs. “It did the same generally after irritation of the “same parts.” Observation 20. “In every case restlessness, opening of the mouth, and long-continued “cries, as if of rage or pain.” Observation 21. “The

‘ “animal suddenly starts up, throws back its head,
‘ “opens its eyes widely, lashes its tail, pants, screams,
‘ “and spits, as if in furious rage. This observation
‘ “was several times repeated.” Observation 25. “The
‘ “excitability of the brain was now well-nigh ex-
‘ “hausted, and it entirely disappeared four hours after
‘ “the commencement of the experiment, during which
‘ “period the exploration was kept up uninterruptedly.”
‘ “Experiment VI. The left hemisphere of a lively
‘ “mongrel cur” (*sic*) “was to a great extent exposed
‘ “before beginning the faradisation, and the other
‘ “parts exposed in detail after the function of the
‘ “previously exposed portions had been determined.”
‘ Observation 10. “Electrodes to points, &c. Several
‘ “applications elicited only cries as if in pain. As
‘ “the animal was emitting cries also during the inter-
‘ “vals of stimulation, it was thought that the cries of
‘ “pain might not be the result of the stimulation; but
‘ “their immediate intensification on the application of
‘ “the electrodes seemed to be the direct result of
‘ “irritation, &c. But the facts of the following expe-
‘ “riments on dogs at first seem hardly in accordance
‘ “with the idea of crossed action in the cerebral
‘ “hemispheres. In two dogs, one of which has already
‘ “been alluded to (p. 54), after failing to get further
‘ “results from stimulation of the convolutions, I com-
‘ “pletely extirpated the right hemisphere. I give
‘ “the particulars only of one case, though the two
‘ “were somewhat similar. The first animal (p. 54)
‘ “lived three days after the operation. In the second,
‘ “I removed the whole of the right hemisphere, just
‘ “anterior to the corpora quadrigemina. A few

“ minutes after the operation, the animal began to
“ howl and bark—the movements of the jaws not
“ having suffered the slightest degree of paralysis.
“ The left sides and the limbs were distinctly
“ weakened ; while the right side and limbs seemed
“ to retain their full power. The animal frequently
“ turned its head to the right, and struggled with
“ its legs as if to rise and walk. The right fore-
“ and hind-legs moved vigorously, but the left
“ hind- and fore-legs were also frequently moved
“ in a similar manner, though less powerfully. The
“ movements of the left legs alternated with those
“ of the right, but occasionally when the right legs
“ were held so as to get rid of their driving or leading
“ action, and left fore- and hind-legs would be moved
“ by themselves in the struggle to get free. Think-
“ ing that possibly the corpora quadrigemina might be
“ concerned in these bilateral movements, I broke up
“ the ganglia on the right side. But the phenomena
“ remained much the same, though the animal seemed
“ blinded, as it ran against furniture, walls, and jammed
“ its head into impossible corners. It retained the power
“ of opening both eyes, and of howling and barking
“ in a very vigorous manner. *Apparently it remained*
“ *quite conscious*, for when called to it would struggle
“ to get up, and would sometimes regain its feet, and
“ even succeed in walking a few steps, when it would
“ fall over in a helpless manner. In these attempts
“ the weakness of the left fore-leg was very evident.
“ An hour and a half after the operation, when in any
“ way disturbed, it made struggles to get up. In these
“ the hind-legs moved alternately, the right certainly

“ more actively, but the left fore-leg was scarcely
“ moved, though the right retained full power. The
“ animal growled and barked very frequently. In
“ order to determine whether the combined move-
“ ments were conditioned by the voluntary impulse
“ of the left hemisphere, I next proceeded, two hours
“ after the removal of the right hemisphere, to expose
“ the sigmoid gyrus of the superior external convo-
“ lution of the left hemisphere. Having ascertained
“ by electrification that I could induce the usual move-
“ ments of the right fore-leg by stimulation of its
“ centres here situated, I cut away the greater part
“ of this gyrus, checking the hemorrhage with cotton-
“ wool, steeped in perchloride of iron. After this
“ the animal ceased to struggle, and lay in whatever
“ position it was placed. Pinching the toes caused
“ reflex movements in all the four limbs, and at the
“ same time the animal barked energetically, and
“ howled when pinched. Pinching the tail especially
“ caused the animal to bark. This condition con-
“ tinued for several hours; barking being always
“ elicited, and some reflex movements of the legs,
“ but not to any great extent. The barking may
“ also have been a reflex phenomenon; but from the
“ fact that barking alone was sometimes induced with-
“ out any marked reflex movements of the limbs, I
“ was rather inclined to attribute the phenomena to
“ *retention of consciousness and distinct sense of pain.*
“ Ultimately (five hours after the first operation), no
“ barking was caused; but only reflex of the limbs
“ and trunk when the legs or tail were pinched. The

‘ “dog survived for eight hours after the removal of
 ‘ “the hemisphere.” See the “West Riding Lunatic
 ‘ “Asylum Medical Reports,” edited by J. Crichton
 ‘ Browne, M.D., F.R.S.E., vol. iii.; London: Smith,
 ‘ Elder & Co., 15, Waterloo Place, 1873. Price, 8s. 6d.
 ‘ This and other papers of the subject may be purchased
 ‘ on application to the Honorary Secretary, at the rate
 ‘ of one-page pamphlet, 2s. per 100; two-page, 3s. per
 ‘ 100; four-page, 4s. per 100, postage extra. The pro-
 ‘ ceeds are given to the Society for the Abolition of
 ‘ Vivisection.’

If you will allow me, I will proceed to read now
 a correspondence between Professor Ferrier and the
 Association:—

‘ *Vivisection*.—The “Morning Post,” London, Monday,
 ‘ October 11th, 1875. We have been requested to
 ‘ publish the following correspondence:—

‘ “16, Upper Berkeley Street, Portman Square, W.,
 ‘ “August 2nd, 1875.

‘ “Sir,—My attention has been drawn to an adver-
 ‘ “tisement inserted by you in the ‘Times’ of to-day,
 ‘ “in which you profess to give extracts from a paper
 ‘ “written by me in vol. iii. of the ‘West Riding
 ‘ “‘Lunatic Asylum Medical Reports,’ edited by Dr.
 ‘ “Crichton Browne. With your views as to the justifi-
 ‘ “ableness of the experiments there recorded I do not
 ‘ “concern myself, being content to leave this question
 ‘ “to the decision of a more competent and impartial
 ‘ “tribunal than the Society which you represent; but
 ‘ “I have to request that when you quote me you will

‘ “do so fairly. The first sentence of the paragraph
 ‘ “from which you draw your account of the operative
 ‘ “procedure commences thus:—‘ In order to carry out
 ‘ “‘the operations necessary for exposing the brain,
 ‘ “‘and observing the effects of stimulation, I have
 ‘ “‘simply *narcotised* the animal, and extended it on a
 ‘ “‘board,’ &c. (page 34). (The italics are not in the
 ‘ “original.) In the opposite page (page 35) occurs this
 ‘ “sentence:—‘ It may be mentioned here, once for
 ‘ “‘all, that before and throughout all the following
 ‘ “‘experiments, ether or chloroform was administered.’
 ‘ “You may draw what inference you please as to the
 ‘ “purpose this narcosis was intended to serve; but
 ‘ “when you suppress these important statements, and
 ‘ “at the tail of your quotations convert them (italics
 ‘ “excepted) into the following—‘ *it is stated* that
 ‘ “‘chloroform and ether were given in *some* of the
 ‘ “‘experiments’—you do not succeed, whatever your
 ‘ “intention may be, in conveying a truthful repre-
 ‘ “sentation of the facts. I am, Sir, your obedient
 ‘ “servant, DAVID FERRIER. George R. Jesse, Esq.,
 ‘ “Henbury, Macclesfield.”

‘ “Henbury, Macclesfield, August 4th, 1875.

‘ “Sir,—Your letter dated the 2nd, and bearing
 ‘ “London post-mark of 3rd instant, arrived here this
 ‘ “day. The expression of your unconcern for the views
 ‘ “of this Society as to the justifiableness of the prac-
 ‘ “tices you term ‘experiments,’ we estimate duly; and
 ‘ “your professed opinion of the Society’s competence
 ‘ “and impartiality is what might be anticipated, as our
 ‘ “endeavours are directed to bring those practices

“ before the tribunal of public opinion. We believe
“ you have been fairly quoted. If you think other-
“ wise, you can make your own statements in the
“ newspapers. Your assertion that ether or chloroform
“ was administered before and *throughout all* the
“ experiments, is, we consider, invalidated by the de-
“ tails which accompany it. Will you explain why (if
“ ether or chloroform was administered throughout
“ ‘Experiment IV. on a full-grown, strong cat’) the
“ creature exhibited ‘signs of pain, screamed, turned
“ ‘its head round, and looked behind in an asto-
“ ‘nished manner; bit angrily, and gnawed its own
“ ‘legs; uttered long-continued cries as if of rage or
“ ‘pain; lashed its tail, panted, screamed,’ &c. Was
“ this an instance and proof of your assertion, ‘It may
“ ‘be mentioned here, once for all, that before and
“ ‘*throughout all* the following experiments ether or
“ ‘chloroform was administered’? We pause for a
“ reply. You also say in the first sentence detailing
“ this experiment, ‘the animal lies breathing quietly
“ ‘in the *semi-narcotised* condition.’ How long did
“ this ‘semi’-condition continue? Was it over ere you
“ commenced giving electric shocks to the brain?
“ Again, at pp. 36 and 37, Experiment III., on another
“ ‘strong’ cat these words appear: ‘the animal was
“ ‘only *partially* narcotised;’ and at page 68 you
“ have written, ‘with and *without* chloroform.’ Can
“ you explain away the apparent inconsistencies of
“ these statements of your own? The impression
“ produced on the reader’s mind, and stated in the
“ ‘Times’ of the 2nd instant, is, that to some of the
“ unhappy creatures who fell into your power you

“ gave ether or chloroform merely that they should be
“ passive, helpless, and unable to struggle or defend
“ themselves against you. Then they were fast bound,
“ skull cut away, dura mater removed, eyeball ex-
“ tirpated, &c.; after which, when the effect of the
“ narcotic had passed away, you did that which drew
“ forth screams, and other manifestations of agony.
“ Can you deny it? Our belief is that the statement
“ as to giving ether or chloroform, whatever your in-
“ tention may have been, does not convey the truth,
“ but appears to palter in a double sense. The public
“ may now, perhaps, realise what is the actual mean-
“ ing of the phrase — ‘experimenting on animals
“ ‘under anæsthetics.’ I am, Sir, your obedient servant,
“ GEORGE R. JESSE, Honorary Secretary, Society for
“ the Abolition of Vivisection. Dr. David Ferrier,
“ 16, Upper Berkeley Street, Portman Square,
“ London, W.”

“ 16, Upper Berkeley Street, Portman Square, W.,
“ August 9th, 1875.

“ Sir,—I am in receipt of your reply, dated 4th
“ August, to mine of the 2nd, in which you ask me to
“ explain certain apparent inconsistencies between the
“ phenomena I have described and the statement that
“ the animals were narcotised. What to you may be
“ inconsistencies, do not appear so to those capable of
“ interpreting the true significance of the facts. I
“ would refer you to a letter on this subject by
“ Dr. Crichton Browne to the Editor of the ‘Times’
“ of August 4th, but personally decline to enter into
“ discussions with you, either publicly or in further

“correspondence. I have waited for your usual advertisement in Monday’s ‘Times,’ and am glad to find it conspicuously absent. As it stood, it was an unfair distortion of the distinct statement which I again make, that anæsthetics were humanely administered before and throughout all the operations and experiments to which you allude. I am, Sir, your obedient servant, DAVID FERRIER. George R. Jesse, Esq., Henbury, Macclesfield.”

“Henbury, Macclesfield, September 2, 1875.

“Sir,—We propose publishing the correspondence which has taken place between you and ourselves. As the question is a public one, we presume you can have no objection to this course. I am, Sir, your obedient servant, GEORGE R. JESSE, Hon. Secretary. Dr. David Ferrier, 16, Upper Berkeley Street, London, W.”

To that letter we never had any reply. We sent it by two different channels.

Then the pamphlet containing that correspondence proceeds: ‘The following are the extracts alluded to. I have already read them to you from the other paper, and need not read them over again. Then there is this note: ‘Dr. David Ferrier commenced this correspondence (possibly in the hope of being able to use it to his advantage), but was prompt to end it. He evades explanation of the apparent inconsistencies of his own statements. His mere assertions will hardly satisfy public opinion for the absence of evidence. It is remarkable that while Dr. David Ferrier insinuates we

‘are incapable of interpreting the true significance of the facts, and refers us to his colleague, Dr. J. Crichton Browne, the latter, in the “Times” of August 4th, gives us credit for being well informed as to the phenomena these experiments drew forth.’ The letter I now wish to read is the one to which he alludes from Dr. Crichton Browne. The answer to that I also now have in my hands; but the ‘Times’ would not allow it to appear. There is no doubt that they received it. We sent it by an agent, who saw Mr. Knight, of the ‘Times,’ and we also wrote again; and we contemplated at one time proceedings against the ‘Times’ for allowing Dr. Crichton Browne’s letter to appear, and not our reply to it. We wrote again to request that they would insert the reply; but got no answer. We did not take proceedings, because we were advised that we were not likely to make much of it. This is the letter which appeared in the ‘Times’ from Dr. Crichton Browne:—

‘To the Editor of the “TIMES.”

‘Sir,—An advertisement which appeared in your columns yesterday, under the authority of the Society for the Abolition of Vivisection, contains statements which are skilfully misleading, and which call for immediate correction. After giving an inaccurate description of the mode of experiment adopted by Professor Ferrier in his important researches into the functions of the brain, and after quoting a few of his observations—adroitly selected, because to the non-professional reader they may seem to justify the unwarrantable conclusion that intense and protracted agony was inflicted during their progress—the

‘ advertisement proceeds to say: “It is stated that
‘ “chloroform and ether were given in some of these
‘ “experiments; but it appears to have been done with
‘ “the view of rendering the animals helpless.” It will,
‘ I think, scarcely be credited that this is the version
‘ which the Society for the Abolition of Vivisection
‘ thinks proper to give of Professor Ferrier’s distinct
‘ intimation, made at the outset of the paper in the
‘ “West Riding Asylum Medical Reports,” from which
‘ the observations were quoted. “It may be here men-
‘ “tioned, once for all, that before and throughout all the
‘ “following experiments ether or chloroform was admi-
‘ “nistered.” Every one able to understand the meaning
‘ and purpose of Professor Ferrier’s experiments will
‘ at once perceive that it was essential to their success
‘ that the animals employed in them should be uncon-
‘ scious, and incapable of feeling pain, or of making any
‘ voluntary effort. The movements and cries produced
‘ by the faradisation of the brain were not expressive of
‘ suffering, but simply of the stimulation of a motor-
‘ centre; and the intense and protracted agony of the
‘ animals exhibiting these signs of pain was not greater
‘ than a pianoforte, when its keys are struck. Similar
‘ signs of pain may be witnessed in an animal without
‘ a brain, or in the deepest state of anæsthesia. It is
‘ an elementary truth in physiology that the brain-tissue
‘ itself is absolutely insensitive, and may be irritated or
‘ sliced away without even discomfort being occasioned.
‘ All this must have been well known to those who con-
‘ cocted the advertisement referred to, and yet they have
‘ not hesitated to deceive the public by representing
‘ mere automatic movements as indications of intense

‘ and protracted agony. To such base practices may not
‘ ill-judged enthusiasm, or a thirst for subscriptions,
‘ reduce even a benevolent society! I am, Sir, your
‘ obedient servant, J. CRICHTON BROWNE. West Riding
‘ Asylum, Wakefield, August 3.’

This is the answer which we sent to the ‘Times,’ and which it would not insert:—

‘ *Vivisection.*—*To the Editor of the “TIMES.”*

‘ Sir,—“To such base practices may not ill-judged
‘ “enthusiasm, or a thirst for subscriptions, reduce even
‘ “a benevolent society!” You have thought fit to give
‘ place to the above language in your issue of the
‘ 4th instant; your sense of justice will allow the reply.
‘ Professor Ferrier’s experiments were brought to our
‘ notice by a Fellow of the Royal Society, who ex-
‘ pressed his disapprobation both as to the absence of
‘ scientific perspicacity and common humanity which,
‘ in his opinion, characterised them. Mr. J. Crichton
‘ Browne asserts the statements of the Society for the
‘ Abolition of Vivisection are “skilfully misleading,”
‘ and the quoted observations “adroitly selected.” He
‘ compliments our ability at the cost of our veracity.
‘ But our quotations from Dr. Ferrier’s experiments
‘ were literal extracts taken in regular succession from
‘ one on a cat. Dr. Ferrier’s assertion that ether or
‘ chloroform was administered before and *throughout all*
‘ his “Experiments” is, we believe, invalidated by the
‘ details which accompany it. If ether or chloroform
‘ was administered throughout “Experiment IV.” on
‘ a full-grown, strong cat, and (as Mr. J. Crichton
‘ Browne’s credulity permits him to affirm, though it is

‘ what he cannot possibly know) the creatures felt no
‘ more than a pianoforte, how was it the animal gave
‘ evidence of astonishment, anger, rage, and pain? How
‘ was it the creature uttered long-continued cries;
‘ screamed, and gnawed his own legs, &c.? the last a
‘ strong manifestation of agony. As the animal ex-
‘ pressed sentiments of the mind, was it not sensible?
‘ Can stimulations of a “motor centre” give rise to
‘ emotions of the mind corresponding therewith? Even
‘ if so, has agony a “motor centre.” We are told
‘ these manifestations of agony arose from “simply the
‘ “stimulation of a motor centre”? Why, then, when
‘ other “motor centres” were “stimulated,” did not the
‘ cat evince signs of love and other feelings? Why did
‘ it not purr, show pleasure, and attempt to caress the
‘ Professor, instead of displaying the most marked in-
‘ dications of astonishment, anger, and rage? At “Ex-
‘ periment III.,” on another strong cat, these words
‘ appear. “The animal was only *partially* narcotised;”
‘ and on another page we find the words “with and *with-*
‘ *out* chloroform!” In one “Experiment,” the right
‘ hemisphere was removed from a dog, and he lived
‘ three days after the mutilation. In another, “the
‘ “whole of the right hemisphere was removed just
‘ “anterior to the corpora quadrigemina.” The animal,
‘ a few minutes after, howled and barked, &c. “Ap-
‘ parently it remained quite conscious, for, when
‘ “called to, it would struggle to get up.” “From
‘ “the fact that barking alone was sometimes induced
‘ “without any marked reflex movements of the limbs, I
‘ “was rather inclined to attribute the phenomena to
‘ “*retention of consciousness and distinct sense of pain.*”

‘ “The dog survived for eight hours after the removal of
‘ “the hemisphere.” Mr. J. Crichton Browne asserts the
‘ insensibility of the brain. Can he be sure that sen-
‘ sation may not be conveyed by it? He will hardly
‘ say that the dura mater is otherwise than excessively
‘ sensitive. In conclusion, I ask, why does not Professor
‘ Ferrier stand forth himself publicly and defend his
‘ own deeds? As to Mr. J. Crichton Browne, who comes
‘ in his place, the intemperance of his language is not
‘ indicative of the justice of his cause. We trust he
‘ will live to feel ashamed of the aspersions he has cast.
‘ I am, Sir, your obedient servant, GEORGE R. JESSE,
‘ Honorary Secretary of the Society for the Abolition
‘ of Vivisection, Henbury, Macclesfield, Cheshire, 7th
‘ August, 1875. P.S.—There are different reasons for
‘ giving chloroform. It is not always administered so
‘ as to produce insensibility. Sometimes merely enough
‘ may be exhibited to narcotise the public mind, and
‘ enable the experimenter to make merciful statements.
‘ It is often given only to secure entire helplessness on
‘ the part of the patient.—G. R. J.’

The next paper is the following :—

‘ *Facts* : As it is often asserted the cruelties of Vivi-
‘ section are exaggerated, this Society brings forward
‘ examples of them. Since Magendie’s time (who did
‘ much to inoculate this nation with the contagious
‘ virus of the moral ulcer) there is evidence to prove
‘ they have largely increased in number. House of
‘ Commons, February 24th, 1825, “Hansard” (N. S.),
‘ vol. xii. p. 658. Mr. Martin of Galway :—There was a
‘ Frenchman of the name of Magendie, whom he con-

'sidered a disgrace to society. In the course of last
'year this man at one of the anatomical theatres ex-
'hibited a series of experiments so atrocious as almost
'to shock belief. He would not trust himself to express
'further opinion upon this fellow's conduct, but would
'merely say that he looked upon those who witnessed
'it without interfering to prevent it almost in the
'light of criminals. This Mr. Magendie got a ladies'
'spaniel, for which he paid ten guineas. He first of
'all nailed its front and then its hind paws to the
'table with the bluntest spikes that he could find,
'giving as a reason for so doing that the poor beast
'in its agonies might tear away from the spikes if they
'were at all sharp and cutting. He then doubled up
'its long ears, and nailed them down to the same table
'with similar spikes. (Cries of "hear" and "shame.")
'He then made a gash down the middle of its face, and
'proceeded to dissect the nerves on one side of it.
'First of all he cut out those nerves which belong to
'the sight, and whilst performing that operation said
'to the spectators, "Observe, when I pass my scalpel
'"over these nerves the dog will shut its eyes." It did
'so. He then proceeded to operate upon those of
'taste and hearing. After he had finished these ope-
'rations, he put some bitter food on the tongue of the
'dog, and hallooed into his ear. The dog repudiated
'the food, and was insensible to the sound. This
'surgical butcher, or butchering surgeon, for he de-
'served both names, then turned round to the specta-
'tors and said, "I have now finished my operations on
'"one side of this dog's head; as it costs so much
'"money to get an animal of this description, I shall

“ reserve the other side till to-morrow. If the servant
“ takes care of him for the night, according to the
“ directions I have given him, I am of opinion that
“ I shall be able to continue my operations upon him
“ to-morrow with quite as much satisfaction to us all
“ as I have done to-day; but if not, though he may
“ have lost the vivacity he has shown to-day, I shall
“ have the opportunity of cutting him up alive and
“ showing you the peristaltic motion of the heart and
“ viscera.” (Great disgust at the statement of this
“ cruel experiment was manifested by the House.)
“ House of Commons, March 11th, 1825, Mr. Martin
“ replied:—One word as to Professor Magendie. He
“ knew that what was spoken in that House was privi-
“ leged from the action of libel, but he desired, in order
“ to try the real merits of the case, that such an action
“ might be brought, and with the view of enabling
“ Professor Magendie to commence the action and to
“ obtain evidence to support it, he had gone down that
“ day to St. Bartholomew’s Hospital, and had there
“ repeated the statement as nearly as possible in the
“ terms in which he had before made it in that House.’

‘ During the first winter in which I attended Edin-
‘ burgh University, and when I was a mere boy, I was a
‘ pupil of Dr. Monro’s Anatomy Class, and also of that of
‘ Mr. Fyfe, his demonstrator. The latter gave a course
‘ of demonstrations or lectures at seven o’clock in the
‘ evening, and on several occasions such exhibitions
‘ were made as those to which I have alluded. A
‘ beautiful spaniel dog was fastened down to the table

‘ with strong cords bound tight round each leg, and
‘ for the purpose of securing his head and preventing
‘ motion, a thick piece of whipcord had been passed
‘ (not without much violent resistance) from the back
‘ part of the mouth through the nostrils, so that one
‘ end came out through each; these were carried round
‘ the extremity of the table and fastened, so that the
‘ animal could not move in the slightest degree. The
‘ former experiments (if they are to be called such)
‘ were repeated, and various others besides. An opening
‘ was made into the chest on one side to show that the
‘ animal might live and breathe by the other; then
‘ both sides were opened to show how long he might
‘ still breathe before he became insensible; then the
‘ openings were closed, to show that respiration would
‘ return, and the animal revive, and again become
‘ sensible of his sufferings. The latter parts of the
‘ operation were done before the opening of the belly.
‘ The expression of torture, as the animal uncovered
‘ his ivory teeth, and tried to struggle as he felt every
‘ cut of the scalpel, was greater than anything indicative
‘ of excruciating pain I ever witnessed before or since;
‘ but I believe the agony the creature must have
‘ suffered by every attempt to move his head, from the
‘ cord cutting the septum of the nostrils, was greater
‘ even than that inflicted by the knife. Of the above
‘ facts I was an eye-witness, and for the truth of them
‘ in every particular I can conscientiously vouch.’—‘The
‘ Rights of Animals,’ &c., by William H. Drummond,
D.D., M.R.I.A., London, &c., 1838.

The late Dr. John Reid, Fellow of the Royal College of Physicians of Edinburgh, and Professor in the University of St. Andrews, repented of the tortures he had perpetrated upon the defenceless. Dr. Reid was cut off in the prime of life by cancer at the root of the tongue, and he repeatedly said to his medical attendants and the members of his family, in allusion to the seat of his long-continued agonies being the same nerves on which he had made so many 'experiments,' 'This is a judgment on me for the sufferings which I 'inflicted on animals.' How terrible those torments must have been may be estimated by the awful retribution recorded in his life. The grave suddenly yawned at his feet; his countenance, cheerless and wan, was gloomy and desponding, almost to despair; opium and chloroform daily taken to alleviate his anguish; sleepless nights of unquenchable agony, slow starvation, bodily exhaustion; demon voices reiterating blasphemies, and hoarsely whispering, 'Curse God, and 'die!' So lowered were his powerful frame and natural energy, that on meeting accidentally his old companion (Mr. Fergusson) in the street, Dr. Reid burst into tears. This physiologist referred to his past life as nothing but a long and dark array of sins and follies. The sufferings he inflicted were not merely incidental to dissection equivalent to severe surgical operations, but in many of the experiments recorded were deliberately inflicted. It was considered essential that the animals should be left free to exhibit all the pain they felt, and should be expressly subjected to torture. He confessed to having thought much of scientific fame in his labours, and it would be untrue to say the allevia-

tion of human suffering was the motive always before him when he inflicted pain on the lower animals. Dr. John Reid departed this life the 30th July, 1849. See 'Life of Dr. Reid,' by George Wilson, M.D. Edinburgh: Sutherland and Knox. London: Simpkin, Marshall, and Co. 1852. Also 'Physiological, Pathological, and Anatomical Researches,' by John Reid, M.D., &c. Edinburgh: Sutherland and Knox. London: Simpkin, Marshall, and Co.; and Samuel Highley. 1848.

As this has been called in question several times, there has been a great deal of correspondence in the 'Scotsman,' where we have had to meet a good many antagonists; but I think, in the opinion of any candid and clear-sighted man, we have most completely overthrown them, and substantiated every word of it; in fact, there is Wilson's book for anybody to go to. We go on to say in our pamphlet:—

'In proof that such nameless and demoralising deeds are not only perpetrated, but even becoming educational and systematic in the kingdom, thereby tainting the minds of the rising generation of young men devoted to the profession of medicine, and familiarising them to scenes of cruelty and cries of agony, it is of great moment to state that in a pamphlet on Edinburgh University Extension, and which contains "Notes on Plans, submitted after confidential intercourse and discussion, by an Architect in 1874," occurs the following (page 13):—"I have placed physiology at the south-west corner, because it is desirable to place this department in such a position that it cannot be overlooked, and also where a good south and north light can be had. On the ground-floor is a room

‘ “ (30 ft. 6 in. by 9 ft.) for physiological experiments
‘ “ on animals. . . . Another reason I have for placing
‘ “ the physiological department here is, that there
‘ “ is good space for keeping animals, and plenty of
‘ “ south light to preserve them in health. . . . Good
‘ “ accommodation can also be had for keeping the
‘ “ animals belonging to the Pathological Department.
‘ “ Edinburgh, 30th December, 1874.” Anderson is
‘ the name of the architect. We did not put his name
‘ in the pamphlet, because he only acted in his profes-
‘ sional capacity.

‘ A Professor of Edinburgh University has recently
‘ stated: “ For the discovery of new truth, or for the
‘ “ purpose of testing the truth of statements not yet
‘ “ corroborated, experiments without the use of narcotics
‘ “ are, if necessary, had recourse to on rabbits, guinea-
‘ “ pigs, or dogs, but these are never given as demon-
‘ “ strations to students. Such experiments are per-
‘ “ formed in private, by my assistant, or by myself, and,
‘ “ it may be, some qualified person working under our
‘ “ immediate superintendence.” William Rutherford,
‘ Professor of the Institutes of Medicine (Physiology)
‘ University of Edinburgh, July 2nd, 1875. (See
‘ “ The Scotsman,” 3rd and 10th July, 1875.’

I propose now to refer to ‘The Life of Dr. John
‘ Reid,’ by Dr. George Wilson, page 124: ‘I am not
‘ anxious to make hasty and sweeping charges; but so
‘ many medical men have spoken to me of the needless
‘ inhumanity of certain French experimenters, who
‘ would not take the trouble to put out of pain the
‘ wretched dogs on which they experimented, even after
‘ they had served their purpose, but left them to perish

‘ of lingering torture, that I cannot doubt the fact, or
‘ leave it unnoticed. . . . I cannot, accordingly, but
‘ think that the practice of experimenting on animals
‘ in the presence of a miscellaneous class of students of
‘ various ages is reprehensible, unless on some few im-
‘ portant exceptional occasions. Such is plainly the
‘ feeling of the medical profession in this country, in-
‘ cluding the students who have revolted at the practice
‘ where it has been tried. Dr. Reid, in his zeal to bene-
‘ fit his pupils, endeavoured, in his earlier courses of
‘ lectures, to induce them to look with favour on the
‘ occasional performance of experiments on living
‘ animals, but without success. And when it is con-
‘ sidered that but a fraction of the pupils of even a
‘ limited class can intelligently follow the steps of an
‘ experiment on a small animal, whilst the majority are
‘ witnesses only of the bloodshed and mangling, the
‘ writhings and cries of the tortured creature, it must
‘ be apparent that such spectacles can rarely, if ever,
‘ compensate for the evil they do in shocking, or still
‘ worse, blunting the feelings of the mass of the spec-
‘ tators by the slender amount of instruction they con-
‘ vey to the few. In England their effect is painfully
‘ to excite the humanity of the onlookers ; in France, I
‘ fear, it must be to deaden it. It could be wished also
‘ that the invitations to all and sundry among the
‘ students of medicine of a College or University to im-
‘ brue their hands in innocent blood, as candidates for
‘ honours or medals, were more guarded than at present
‘ they are.’

4445. What is the date of that ?—This is the second edition, dated 1852. ‘ A premium has thus been put

‘ upon animal torture and animal murder at the hands
‘ of the most inexperienced and the most unskilful
‘ members of the profession, which has been productive
‘ of serious evils. Students have naturally thought
‘ that if one experiment was valuable, two experiments
‘ would be still more so, and three, six, or a dozen best
‘ of all. A kills six dogs, numbering each slaughter in
‘ italics and Roman numerals, Experiment I., Experi-
‘ ment II., &c. &c. B kills seven, C eight, and D
‘ makes sure of the prize by killing the dozen. This
‘ counting of heads, as in the days when a sum of
‘ money was offered for every wolf’s skull brought to
‘ the Treasury, has unavoidably led to much unjusti-
‘ fiable and unprofitable cruelty. It is time that some-
‘ thing be done to check it by suitable caution and
‘ advice to students; and few things could be more
‘ effectual than the public condemnation of injudicious
‘ and needlessly cruel physiological experiments, even
‘ when these occur in essays deemed worthy of reward.
‘ The use of anæsthetics might, and should, be more
‘ resorted to by experimenters on animals than it has yet
‘ been. Our central regulating and examining medical
‘ bodies have much in their power in reference to this,
‘ and owe it to the character of the profession for hu-
‘ manity not to tempt young men to let desire for dis-
‘ tinctions induce them to be thoughtlessly, much less
‘ deliberately, cruel. . . . Even though an animal could
‘ be maimed and slain without the infliction of suffering,
‘ it should not be mutilated or slaughtered rashly. So
‘ wonderful a piece of Divine art and workmanship, as
‘ every living creature is, should be reverently dealt
‘ with, and not hastily marred or destroyed by the hands

‘ of him who is most profoundly conscious of the exquisite nature of the work he is marring. The fundamental law of moral responsibility, which declares that from those to whom much is given much will be required, demands from the physiologist a greater reverence for life than from his more ignorant brethren. This obligation, I fear, is almost totally forgotten or neglected by medical men ; yet, if there be an established principle in medical ethics, it is one.’

4446. Are there other passages in that book to which you desire to draw attention ? This is the only remaining one, and it will be found at page 130. ‘ We are thus taught that our Saviour, although now exalted far above all principalities and powers, and every name that can be named, yet because He once was a man of sorrows and acquainted with grief, still looks with the deepest compassion upon all who suffer, and is ready to offer them His Divine sympathy. With reverence I would urge that there is an example, as well as a lesson for us, in this respect, of the Saviour’s compassion for men ; inasmuch as we partake, with the lower animals, of bodies exquisitely sensitive to pain, and often agonised by it, we should be slow to torture creatures who, though not sharers of our joys, or participators in our mental agonies, can equal us in bodily suffering. We stand by Divine appointment between God and His irresponsible subjects, and are as gods unto them ; and we should strive and be as merciful to them as God is to us. They are patient and obedient to our caprices, and forgetful and forgiving of the wrongs we do them ; and they may claim gentleness at our hands, when we, who have rebelled against

‘ the most gracious of masters, have yet found compassion and mercy. . . . They have taught us a lesson of obedience to God, and He has taught us a lesson of kindness to them. We shall be worse even than the forgiven debtor, who showed no mercy to his creditor, if we wrong servants who have excelled us in faithfulness, or fail in compassion for the dumb creatures of God, which He has committed to our care.’

The next book to which I have to refer is ‘Lessons in Elementary Physiology,’ by Thomas H. Huxley, L.L.D., F.R.S., 1874, preface to the first edition. The following ‘Lessons in Elementary Physiology are primarily intended to serve the purpose of a text book for teachers and learners in boys’ and girls’ schools.’ In the preface to the second edition I find: ‘As the majority of the readers of these lessons will assuredly have no opportunity of studying anatomy or physiology upon the human subject, these remarks may seem discouraging. But they are not so in reality. For the purpose of acquiring a practical, though elementary acquaintance with physiological anatomy and histology, the organs and tissues of the commonest domestic animals afford ample materials.’ Then there are these directions at page 255: ‘If when the cord is cut across in an animal, the cut end of the portion below the division, or away from the brain, be irritated, violent movements of all the muscles supplied by nerves given off from the lower part of cord take place, but there is no sensation. On the other hand, if that part of the cord which is still connected with the brain, or better, if any afferent nerve connected with that part of the cord be irritated, *great*

' *pain* ensues, as is shown by the movements of the
' animal, but in these movements the muscles supplied
' by nerves coming from the spinal cord below the cut
' take no part; they remain perfectly quiet.' At page
252: 'If the trunk of a spinal nerve be irritated in any
' way as by pinching, cutting, galvanising, or applying
' a hot body, two things happen. In the first place, all
' the muscles to which filaments of this nerve are dis-
' tributed, contract; in the second, *acute pain* is felt,
' and the pain is referred to that part of the skin to
' which fibres of the nerves are distributed. In other
' words, the effect of irritating the trunk of a nerve is
' the same as that of irritating its component fibres at
' their terminations.' At page 52: 'That this is the
' real state of the case may be proved experimentally
' upon rabbits. These animals may be made to blush
' artificially. If in a rabbit the systematic nerve which
' sends branches to the vessels of the head is cut, the
' ear of the rabbit, which is covered by so delicate an
' integument that the changes in its vessels can be
' readily perceived at once, blushes. That is to say, the
' vessels dilate, fill with blood, and the ear becomes red
' and hot. The reason of this is that when the sympa-
' thetic is cut, the nervous stimulus which is ordinarily
' sent along its branches is interrupted and the muscles
' of the small vessels, which were slightly contracted,
' become altogether relaxed. And now it is quite
' possible to produce pallor and cold in the rabbit's
' ear. To do this it is only necessary to irritate the
' cut end of the sympathetic which remains connected
' with the vessels. The nerve then becomes excited,
' so that the muscular fibres of the vessels are thrown

‘into a violent state of contraction, which diminishes
‘their calibre so much that the blood can hardly make
‘its way through them. Consequently, the ear becomes
‘pale and cold.’ I might read other passages of the
kind in this work; but as they are very much indeed
to the same purpose, I shall not take up the time of
the Royal Commission unnecessarily; but I wish to
make that remark to go in evidence that there are
other passages of the kind.

4446a. *Mr. Huxley*: What is the object in reading those passages?

A Commissioner: You will have the opportunity of asking him by-and-by.

The next book to which I wish to refer is ‘The Rights
‘of Animals, and Man’s Obligation to treat them with
‘Humanity,’ by William H. Drummond, D.D., M.R.I.A.,
and Honorary Member of the Belfast Natural History
Society.

4447. Is he living?—That I do not know. The
date of the book is 1838. At page 163 it says: ‘Innu-
‘merable experiments have been made on the brains of
‘animals, in the infamy of which the Edinburgh Schools
‘of Anatomy are entitled to an ample portion. The
‘Earl of Carnarvon, President of the Society for the
‘Prevention of Cruelty to Animals, merits the eulogy
‘of every friend of humanity for having at the Annual
‘Meeting, 1837, brought the subject before the public
‘in an eloquent address, worthy of that Presidency
‘which he holds. After expressing a strong detestation
‘of the practice of dissecting living animals he asks:
‘“What will you say of that man who keeps a dog,

“not for hours but for days, under the torture of the
“dissecting-knife, until the spectator, grown callous
“to suffering, becomes as savage as the operator
“himself? What will you say to him, who could
“calmly for days prolong atrocities and sufferings
“which no Christian eye can witness without horror,
“no Christian lip describe but in the most unmeasured
“language of indignation? I will state still further.
“What will a Christian audience say when they hear
“that the revolting fact was perpetrated and recorded
“in the City of Edinburgh. That an iron was heated,
“and then forced into the brain of the unfortunate ani-
“mal, which with fiendish skill was kept alive for the
“space of sixteen days” (Cries of “shame.”) “By whom
“was this atrocity perpetrated? By men who pride
“themselves on their science and civilisation, but who,
“in fact, are more benighted in point of civilisation
“than the benighted savages of Scythia. Will you
“be able to restrain your indignation, then, when you
“are calmly told that it is better to leave such matters
“to the ‘discretion’ of individuals? In other cases
“the law of outraged morals steps in to protect and
“avenge; but against these cases, offensive to the
“light, outraging decency, repugnant to generous
“sympathy and to the Christian faith, the law deals
“not its thunders. The young and inexperienced who
“are attracted to these charnel houses, where horrors
“not to be described are permitted under the name of
“science, must in time have all feelings of compassion
“for suffering entirely obliterated.’”

Then the next book to which I would refer is a book entitled ‘Vivisection: Is it Necessary or Justifiable?’

‘ Being Two Prize Essays published by the Royal ‘ Society for the Prevention of Cruelty to Animals,’ and published in London by Robert Hardwicke, 192, Piccadilly, in the year 1866. What I wish to refer to is an extract which it contains, written from a book by Mr. J. Burn Murdoch, of Gartincaber, Edinburgh, in 1846, entitled ‘ An Account of a Visit to the Veterinary ‘ School of Alfort in 1844.’*

4448. Do you wish to refer us to particular passages in that book as showing the evils of the system of vivisection?—Yes.

4449. Will you be so good as to give us the references to them?—I will furnish them afterwards. My object in referring you especially to that passage headed ‘ A ‘ Visit to Alfort,’ is this. It is simply harrowing in its details; and he being a veterinary surgeon, of course he is competent to speak, and I expect he is a very good authority; and the thing almost culminates in those horrors. Our object in bringing that forward is to show what length these things not only can go to, but have gone to, and that what has occurred in France may occur here.

I am now going to read a very few lines out of another work, and my object is to show how the thing is spreading; that it is not confined merely to laboratories and hospitals, but is done in lodgings, and so on; in fact, that it is permeating general society. It is called ‘ Medical Students of the Period. A Few ‘ Words in Defence of those much-maligned People;

* The Royal Commission *refused* to permit me to read the horrible cruelties detailed by Mr. J. Burn Murdoch.—G. R. J.

‘with Digressions on various topics of public interest ‘connected with Medical Science,’ by R. Temple Wright, M.D., late Scholar of King’s College, London; and it is published by William Blackwood and Sons, Edinburgh and London, 1867.*

4450. Is Mr. Wright living?—I do not know; I have not the honour of his acquaintance.

4451. You refer us to that book as showing that, in your opinion, evidence is obtainable of the spread of the system?—Yes.

4452. What page do you particularly direct our attention to?—Page 137 and page 138.

4453. *Lord Winmarleigh*: Does that book contain opinions expressed by people to the Society, or are they facts?—I do not know whether they are facts or not. The writer gives them here in this book as facts. I want to show what some of these young fellows do in their lodgings when they meet in an evening.

4454. *The Chairman*: Have you read the book yourself?—No; I have read the passages I particularly refer to.

4455. Are you acquainted with the writer?—Not at all.†

(*The Witness withdrew.*)

* I was also refused permission by the Commissioners to read from *this* work.—G. R. J.

† Professor Huxley endeavoured to prevent my giving any further evidence. He suggested to the Chairman, towards the close of the first day, that I should conclude my evidence on that occasion, and not appear again.—G. R. J.

SECOND DAYS EVIDENCE.

NOVEMBER 6TH, 1875.

Present:—

The Right Hon. VISCOUNT CARDWELL, *in the Chair.*

The Right Hon. W. E. FORSTER, M.P.

Sir J. B. KARSLAKE, M.P.

THOMAS HENRY HUXLEY, Esq.

JOHN ERIC ERICHSEN, Esq.

RICHARD HOLT HUTTON, Esq.

N. BAKER, Esq., *Secretary.*

MR. GEORGE RICHARD JESSE *recalled, and further examined.*

5551. *The Chairman:* When we adjourned the other day there had not been time for you to finish your statement. Will you be so good as to proceed with it now?—With regard to the list which I was then requested to furnish of the subscribers to the Society for the Abolition of Vivisection, I may state that I am having it prepared. In regard to Mr. E. C. May's* letter, which the Commission, I think, demurred to printing in the Appendix, on the score that he being alive, he ought to give evidence himself, I have communicated with him, and he tells me that he has written

* Mr. Edward Curtis May, F.R.C.S. See his letter addressed to the Society for the Abolition of Vivisection, April 14th, 1875.

to the Commissioners to state respectfully that his health totally precludes him from coming here. Under these circumstances, I presume that you will receive the letter and print it.

5552. At all events the Commission cannot receive it from you. Will you please proceed with your statement?—Your decision has quite taken the Society by surprise. We thought, and doubtless correctly, judging from the copy of the Royal Commission on Vivisection, that you had the power to do that, as it says:—‘To call for, have access to, and examine all such books, documents, and papers as may afford the fullest information on the subject, and to inquire of and concerning the premises by all other lawful ways and means whatsoever.’ I merely mention that lest you should have forgotten it.

5553. Will you have the goodness to proceed with your statement?—Certainly, having done all that I can on that point. Then I think the Commission also objected to allow me to read even a passage from the works of Chalmers. Is that so?

5554. It is so.—I understand that that was on the ground that I could not state in what portion of his works it occurred; but one of our Society has been to the British Museum, and I have this morning received the particulars.

5555. What you were told the other day was that if you would have the goodness to put in the reference, it was open to you to do so. As I understand, you were not able then to put in the reference, but you are now?—I am.

5556. If you will be so good as to put in the reference,

we will take notice of it.—The extract is from a sermon by Thomas Chalmers, D.D., published in Edinburgh, March 5th, 1826. I should have thought that a Scotch divine might have been heard against Scotch vivisectors. The sermon is published in a separate volume, second edition, published by Chalmers and Collins, Glasgow, 1826.

Then the Society wishes to express most respectfully its regret that it should have been thought necessary to issue a Royal Commission on the subject, inasmuch as torturing animals is contrary to the existing law; and the Society most respectfully wishes to submit that *what is required on this question at present is to enforce the existing law of the land*, which is this.* The Act 12th and 13th Victoria, chapter 92, passed August 1st, 1849, intituled ‘An Act for the more effectual Prevention of Cruelty to Animals.’ Section 1 repeals 5 and 6 William IV. chapter 59, and 7 William IV. and 1 Victoria, chapter 66. ‘Section 2,’ is:—‘And be it enacted, that if any person shall cruelly beat, ill-treat, over-drive, abuse, or *torture*, or cause, or procure to be cruelly beaten, ill-treated, over-driven, abused or *tortured*, any animal, every such offender shall for every such offence forfeit and pay a penalty not exceeding 5*l*.’ There is more in the Act, but that I think is all that it is necessary for me to read.

The Society has received very numerous letters from various parts of the kingdom and from abroad—even, I

* I believe my exact expression was,—‘The Society wishes to express, most respectfully, its regret, that Her Majesty’s advisers, instead of enforcing the existing law, should have thought fit to counsel Her Majesty to issue a Royal Commission,’ &c.

think, as far as Peru—expressing great feeling upon the subject, and the very strongest indignation which language can express in regard to the practices of vivisectors. It would take up too much of the time of the Commission, I suppose (though I do not know for certain about that) to read these documents; but I should like to read one that I received only the day before yesterday, and which may be taken as a sample of many more. Of course, we think, and I believe the public will think, these letters very important on this question, because they express the sentiments of a great number of people of education and rank.

(The Witness withdrew, and the Commission deliberated.)

(After a short time the Witness was again called in.)

5557. The *Chairman*: You have offered us in evidence a letter, which we understand comes from Peru?—No; I said we had had letters even from as far as Peru.

5558. What is the letter that you wish to read to the Commission?—It is a letter on the subject of vivisection.

5559. From whom?—From a clergyman who was educated as a physician; in fact, he is a physician, too.

5560. Where does he live?—In Devonshire.

5561. Then the same principle which prevents our receiving Mr. May's letter will prevent our receiving any other letter addressed to you by somebody who is not here to be examined by us?

The Witness: That applies to all letters which have been received, doubtless, by the Association on the subject of vivisection. Very good; I am sorry to hear it.

The Chairman: There are some limits to all things. When a decision is communicated to you by the Commission, will you be good enough to accept it, and not to argue it?

The Witness: There are limits to all things. I beg leave to state that I have come here at the request of the Commissioners, and that I represent a Society. I beg leave to say also that when I was here on a previous occasion there were marks of disrespect from one end of the table, which I did not think it worth my while then to notice; but as I have been spoken to in this manner, I beg leave to say that I am sorry that any person appointed by Her Majesty should behave in that way to a witness.

The Chairman: Will you have the kindness to leave us to ourselves for a little while?

(The Witness then withdrew, and after some time was again called in.)

5562. *The Chairman:* I am desired by every member of the Commission who is here to disclaim all intention of having shown any mark of disrespect to you upon the former occasion, and I am sure that I may say the same with regard to any colleague who may have been then present and may not be present now. Now, I have to ask you whether you withdraw that imputation?—I stated my belief at the time; I felt confident of it. I thought it even attracted your own observation. May I ask if it is so? Did anything of the kind attract your observation on a previous occasion?

5563. I have told you on the part of all my colleagues

here present that they individually disclaim any such intention, and I ask you, therefore, whether you withdraw the imputation?—Under these circumstances, I am quite ready to say that I am glad to find that I was mistaken.*

5564. Now, will you proceed with your statement? —‘Human Physiology,’ by John Elliotson, M.D., Cantab, F.R.S., Fellow of the Royal College of Physicians, President of the Phrenological Society, late Professor of Medicine in University College, London, and Physician to University College Hospital, formerly Physician to St. Thomas’s Hospital, and President of the Royal Medical Society of Edinburgh, &c. &c. &c. London: Longman and Co., 1840. That is enough to enable you to identify the book.

On page 448 I read: ‘I will not presume to doubt Dr. Brachet’s fidelity, but his results all square so wonderfully, except where he is not aware they do not, that confirmation would be desirable were it not for the torture necessary. Some points, however, in his experiments I do not comprehend. In one experiment (84) we saw that after the division of the pneumo-gastric, a puppy might have its head plunged in water without making any effort to raise it and to breathe; yet, in other instances (40 and 41), puppies made violent efforts to inspire. He does not explain the difference, but explains the efforts to breathe on the score of habit. The explanation I attempted of

* Mistaken (according to the Chairman’s disclaimer) as to the ‘intention.’ Not so, as to the ‘fact.’ Professor Huxley was the person alluded to.—G. R. J.

‘ the difference (*supra*, p. 434) may not be satisfactory to all.’*

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‘ Not only were these repetitions superfluous, but
 ‘ the experiments were altogether superfluous, as the
 ‘ man’s case was perfectly similar. I do not think a
 ‘ physiologist would have ventured to divulge such a
 ‘ disgusting experiment in this country, and I cannot
 ‘ refrain from expressing my horror at the amount of
 ‘ torture which Dr. Brachet inflicted upon so many un-
 ‘ offending brutes. Nearly or not quite 200 must have
 ‘ suffered under his hands. I hardly think that know-
 ‘ ledge is worth having at such a purchase, or that it
 ‘ was ordained that we should obtain knowledge by
 ‘ cruelty. I care nothing for killing a brute outright
 ‘ without pain; it is then but as before it was born,
 ‘ feels no loss, and escapes all further chance of suffer-
 ‘ ing. Vivisection may be justifiable in some instances.
 ‘ But before an inquirer commences an experiment of
 ‘ torture, he ought to be satisfied of its absolute neces-
 ‘ sity; that the investigation is important and the
 ‘ means indispensable; and also that he is master of
 ‘ the existing knowledge on the subject, and qualified
 ‘ to operate and to philosophise upon the results. He
 ‘ should proceed to the task with the deepest feelings
 ‘ of regret. I do not wish to make a parade of feeling,
 ‘ but to torture animals unnecessarily is a most
 ‘ cowardly and cold-blooded act, and in my opinion one

* This portion of evidence is omitted here, because, though it ought to have had great weight with the Royal Commissioners as proving the demoralising result on the mind of these practices, the details are too loathsome for general readers.—G. R. J.

‘ of the utmost depravity and sin. A course of experimental physiology in which brutes are agonised to exhibit facts already established is a disgrace to the country which permits it. My esteemed French friends will pardon me, but I fear that in France there is among many too little repugnance to vivisection. (In his youthful days the tone of feeling among French medical students must have been bad, unless the following brutality was followed by immediate expulsion from the hospital.) He says that one of his colleagues, when he was interne of the Hotel Dieu, regaled the rest of them with a dinner of cats which he had experimented upon in their lifetime, and the next day sent the skins, bowels, &c., to the party in order to let them know what they had eaten (p. 338), and I am sure that the following experiment would have caused Dr. Brachet to be blackballed in any respectable society in England, for a physiologist was blackballed at the Royal Society from the horror excited by an account read just before the experiments in which rabbits’ heads were crushed, though on reflection it was found that these experiments were unattended with pain, and he was honourably elected on an early occasion. Experiment CLXI. “I inspired,” says Dr. Brachet, “a dog with the greatest aversion for me by plaguing and inflicting some pain or other upon it as often as I saw it. When this feeling was carried to its height so that the animal became furious as soon as it saw or heard me, I put out its eyes. I could then appear before it without its manifesting the least aversion. I spoke, and immediately its barkings and furious movements proved

' " the passion which animated it. I destroyed the
' " drum of its ears, and disorganised the internal
' " ear as much as I could; when an intense inflam-
' " mation which was excited had rendered him deaf, I
' " filled up its ears with wax. He could no longer
' " hear at all. Then I went to its side, spoke aloud,
' " and even caressed it without its falling into a rage;
' " it seemed even sensible to my caresses." Nay,
' Dr. Brachet repeated the same experiment on another
' dog, and begs to assure us that the result was the
' same. And what was all this to prove? Simply
' that if one brute has an aversion to another, it does
' not feel or show that aversion when it has no means
' of knowing that the other brute is present. If he
' had stood near the dog on the other side of a wall he
' might equally have proved what common sense re-
' quired not to be proved. After all, I do not under-
' stand how it happened that the poor dog did not
' scent him. I blush for human nature at detailing
' this experiment, and shall finish by informing my
' readers that the memoir containing this and all the
' other horrors obtained the physiological prize from
' the French Institute in 1826.'

Then at page 428 there is this: ' Dr. Magendie, who
' cut living animals here and there with no definite
' object, but just to see what would happen, informs us,
' that,' and so on.

Then on page 429: ' If ever he amused himself by
' sticking pins in the chorda oblongata of pigeons, the
' birds thus ornamented by him would walk and fly
' backwards for above a month!'

On page 465: ' Numerous as have been Dr. Magen-

‘die’s physiological errors, humbly as I estimate his
‘knowledge and reasoning powers, and much as I
‘abhor his cruelty to brutes,’ and so on.

Then on page 423: ‘See Gall. l. c. 8vo. t. vi. p. 210.
‘From page 178 to 288 are excellent remarks upon
‘the unsatisfactory nature of these experiments as have
‘been made by Fleurens, Rolando, &c. See also 4to.
‘vol. iii. p. 56, and 8vo. t. iii. p. 379 sqq. The first
‘three-quarters of the sixth volume should be read by
‘all who are acquainted with the writings of these
‘experimenters, or of Tiedemann, Rudolphi, Serres, &c.,
‘upon the brain. They will find these writers less
‘meritorious than they imagined.’

Then on page 424: “Where is the anatomist or
‘physiologist who precisely knows all the origins, the
‘whole extent, all the ramifications, all the connections
‘of an organ? You remove the cerebellum, at the
‘same moment you severely injure the medulla oblon-
‘gata and spinalis; you injure the tuber annulare, you
‘injure the tubercula quadrigemina; consequently your
‘results relate not merely to all these parts, but to
‘all those which communicate with them, either directly
‘or indirectly. You think you have insulated the
‘tubercles, but these tubercles have connections with
‘the corpora olivaria, the medulla oblongata, the cere-
‘bellum, the sense of vision, and many convolutions;
‘the thalami, optici, the corpora striata, are connected
‘below with the crura cerebri, the tuber annulare,
‘the medulla oblongata, the pyramids, and the spinal
‘marrow; above, with all the cerebral membrane, all
‘the convolutions, the non-fibrous grey substance of
‘their surface with their different commissures, as the

‘anterior commissure, the great commissure or corpus callosum, with the formix, the septum lucidum. Thus there does not exist a cerebral part which we do not know to have numerous connections with other parts. I do not except even the corpora, mammilaria, the pineal gland, the infundibulum, &c. The connections yet unknown are unquestionably still more numerous.’ (Gall, l. c. p. 240 sqq.) ‘*Sir C. Bell has lately imitated Gall in objecting to vivisections as a means of discovery.** Gall’s nature was most tender. He had a horror of inflicting pain upon poor brutes, and would allow Dr. Magendie to be little more than a canicide. He always kept dogs and birds in his house at Paris, and I have seen him kiss his horses on alighting from his carriage at his country house, and then stand to receive the caresses of several immense bloodhounds which put their forelegs upon his shoulders.’ (See his glowing remarks on cruelty to brutes, l. c. 4to. vol. iv. p. 196; 8vo. t. v. p. 259 sq.)

Then on page 426 it goes on to say: ‘Hence the contradictory and strange observations and inferences of most experimenters on the brain of living brutes.’

And on page 427: ‘In opposition to M. Fleurens, MM. Foville and Pinel Grand-Champs ascribe to the cerebellum the function of sensation. M. Fleurens, after removing the cerebrum, declared all sensation and volition to be lost. M. Bouillaud found animals so deprived give signs of pain, and exert will in endeavouring to escape.’ (Magendie’s Journal, t. x. p. 36 sqq.)

The Society’s object in bringing forward some of

* Ph. Trans. 1834.

these works is not only to show the cruelties perpetrated upon our weaker fellow-creatures, commonly termed animals, but to show the demoralizing effects upon the minds of those who perpetrate them, and which of course must tend to spread through society, and particularly when, as it now appears, that these things are to be taught to boys and girls.

Now I am going to quote here a man of the first eminence as a veterinary surgeon. The book from which I take the quotation is 'The Obligation and 'Extent of Humanity to Brutes, principally considered 'with reference to the Domesticated Animals,' by Mr. Youatt, author of 'The Horse,' 'Cattle,' and 'Sheep,' editor of 'The Veterinarian,' and so on, published by Longman and Co., 1839, London, and this is on the title page:—

'The heart is hard in nature, and unfit
For human fellowship, that is not pleased
With sight of animals enjoying life,
Nor feels their happiness augment his own.'

COWPER.

At page 200 I find this: '*It is,*' says Dr. Crampton in the letter already referred to, '*a painful and humiliating truth, that the human mind, by being familiarised with scenes of cruelty and horror, may be brought at length to extract from them a kind of insane gratification, which, like other perverted passions, extinguishes all the finer and better sympathies of our nature; the public exhibition of torturing experiments on animals exercises a corrupting influence on the minds of those who witness them, and ought not to be tolerated. The natural feelings of commiseration which we enter-*

'tain for the sufferings of helpless and unoffending animals are entwined with the best and tenderest sympathies of our nature, and we cannot part with the one without tearing up the other by the very roots.'

Then on page 202: 'In a northern journal, "The Phrenological Magazine," No. 29, are recorded a series of abominable experiments in illustration of the science of phrenology, and to determine the supposed functions of the different parts of the brain. They are so outrageously cruel that they ought not to have been tolerated in any civilised country, much less in the University of Modern Athens. "One experiment consisted in the entire removal of the cerebral lobes from a pigeon; the paring away of the cortical substance from the convex surface of the brain of a second, and of the central hemispheres of a third." These three pigeons were then coolly and deliberately watched till the moment of their deaths, in order that this brute, rather than a philosopher, might ascertain precisely how long an animal under such circumstances retains its power of intelligence and its faculty of recognising external objects; and also how many acts it was capable of performing which display any determined end or motive. "A hen was deprived of the anterior part of the brain." What was the result of this experiment? The poor fowl, not having the use of its faculties, as before the injury was inflicted, after being hunted from place to place, attacked by other fowls, thrown from various heights, exposed to violent rain, and to the heat of a kitchen fire and burnt by hot irons, died *in consequence of another experiment!* A young dog was selected "which

“ possessed the reputation of being *lively, docile, and*
“ *intelligent.*” And for what purpose? To have a
“ *thick gimlet* forced into the anterior lobes of its brain,
“ and then to be watched, in order to discover how he
“ will “eat, drink, and walk;” to have *burning irons*
“ forced into each anterior lobes; to be *pinched* occa-
“ sionally, to ascertain how much feeling he has left;
“ and to have other injuries inflicted upon him, until,
“ *on the sixth day*, he dies! Soon after this, another
“ “*young, lively, docile, and intelligent dog*” was se-
“ lected. The anterior part of the brain of this animal
“ was also transfixed, and his various agonies were
“ closely and minutely *watched and recorded.*’ Those
words ‘watched and recorded’ are in italics. ‘Water
“ was poured down his throat; camphor was admi-
“ nistered. When menaced, he crouched as if to im-
“ plore mercy, and uttered cries which nothing could
“ repress. When menaces were succeeded by blows, he
“ lay down in a supplicating posture and whined. He
“ burnt and scalded his muzzle, lips, and feet, by
“ attempting to eat food which was purposely placed
“ before him just taken from the fire.’ “*Some days*
“ “*afterwards,*” those three words being in italics, ““I
“ “led it,” says the miscreant, “to the river, and re-
“ “gardless of its terror, threw it in. On this occa-
“ “sion it quickly swam ashore and returned to the
“ “house.” The poor tortured animal “still manifest-
“ “ing docility in coming, when, after caressing it, we
“ “called upon it in a tone of kindness; or if we had
“ “menaced, beat, or called upon it in vain, in going
“ “away, holding down its head and tail, and crouching
“ “down as if in the act of supplication. Its eyes

‘ “ became animated, its ears were erected on the
‘ “ slightest noise, but otherwise it had a look of im-
‘ “ becility.” The experiments lasted during *sixteen*
‘ *days* ; “ and,” adds M. Bouillaud, in capital letters, “ IT
‘ “ WAS SACRIFICED IN THE PERFORMANCE
‘ “ OF A NEW EXPERIMENT.” We do not be-
‘ lieve that the records of any age contain atrocities
‘ more infamous than these. The new Act of the
‘ 5th and 6th William IV. surely extends to barbarities
‘ like these. We trust that similar exhibitions will
‘ never be attempted in any part of the United
‘ Kingdom, or if they are, and wherever the dis-
‘ graceful scene may be enacted, we trust that some
‘ persons may be found humane and courageous enough
‘ to summon the offender to the tribunal, not only
‘ of public opinion but of common law.’

This is what the Society at the present moment is endeavouring to do at Edinburgh in regard to Professor Rutherford. We have placed the matter in the hands of our solicitor with regard to experiments of his, lately published in the ‘ British Medical Journal.’

On page 206 occurs this quotation ; it is from Charles Bell, no doubt Sir Charles : ‘ *For my own part, I cannot believe that Providence should intend that the secrets of nature are to be discovered by the means of cruelty ; and I am sure that those who are guilty of protracted cruelties do not possess minds capable of appreciating the laws of nature.*’

The Society thinks that it is important to show the nature of some of these creatures who are tortured in this manner. You hear some people say that the animals have not minds ; others deny them immortality,

though the latter is certainly what no man can know; and Butler, in his 'Analogy,' says that what applies to the immortality of man applies also to them; and men who have studied the subject know that men of the first calibre of mind, (Locke, for example,) have held the opinion that they have minds; and some believe they are immortal.

Then on page 45: 'My own experience'—so this is not only recorded by Youatt, a man of the first eminence in his occupation——

5565. Are you going to show us that Mr. Youatt's opinions are in favour of the immortality of animals?—No, not that; but I am going to show here that the intellect and moral qualities of these creatures are such that that consideration alone ought to prevent them from being treated in such a way. That is all. Of course I am not going into an abstract question of that sort.

'My own experience furnishes me with an instance
' like the preceding ones of the memory and the grati-
' tude of the dog. I had many years ago a Newfound-
' land dog, as thoroughly attached to me as these faithful
' creatures generally are to those who use them well.
' It became inconvenient for me to keep him, and I gave
' him to one I knew would be kind to him. Four years
' passed and I had not seen him, although I had often
' inquired about him; but one day I was walking
' towards Kingston, and had arrived at the brow of the
' hill where Jerry Abershaw's gibbet then stood, when
' I met Carlo and the master to whom I had con-
' signed him. He recollected me in a moment, and we
' made much of each other. His master, after a little

‘ chat, proceeded towards Wandsworth, and Carlo, as
‘ in duty bound, followed him. I had not, however, got
‘ more than halfway down the hill when he was at my
‘ side, lowly but deeply growling, and every hair brist-
‘ ling. I looked to the right, and there were two ill-
‘ looking fellows making their way through the bushes
‘ which then occupied the angular space between the
‘ Roehampton and Wandsworth Roads. Their intention
‘ was scarcely questionable; and, indeed, a week or two
‘ before I had narrowly escaped from two miscreants
‘ like them. I can scarcely say what I felt; for pre-
‘ sently one of the scoundrels emerged from the bushes
‘ not twenty yards in front of me, but he no sooner
‘ saw my companion and heard his growling—
‘ the loudness and depth of which were fearfully
‘ increasing—than he retreated, and I saw no more
‘ of him or of his associate. My gallant defender
‘ accompanied me to the direction-post at the bottom
‘ of the hill, and there, with many a mutual and honest
‘ greeting, we parted, and he bounded away to over-
‘ take his rightful owner. We never met again, but
‘ I need not say that I often thought of him with
‘ admiration and gratitude.’

The ‘Quarterly Review,’ No. 170, September, 1849,
at page 390, contains the following: ‘It was a desire
‘ worthy of Caligula that the victims of the State should
‘ *taste* their death. The barbarous maxim has never
‘ lacked patrons in barbarous times, nor has humanity
‘ always kept pace with refinement. Manners continued
‘ to soften, and still it was not thought wrong that in
‘ heinous cases a forfeited life should be wrung out by
‘ any torture, however lengthened and intense. The

‘ physicians of Montpellier, in the sixteenth century, received from the French Government the annual present of a criminal, to be dissected alive for the advancement of science. *The theory of the medical art could have gained nothing to justify lessons which brutalised its professors. No amount of skill can supply to society the place of respect for life, and sympathy for suffering.*

‘ When the poison-tampering Queen, in “Cymbeline,” * tells the doctor—

‘ “ I will try the force of these thy compounds on such creatures as
‘ “ We count not worth the hanging, (but none human).”

‘ Her medical confidant replies :

‘ “ Your Highness shall from this practice but make hard your heart.” ’

And on this reply, in one of those notes which modern editors usually sneer at, but to which Mr. Knight, occasionally (as here), does more justice, we read : ‘ The thought would probably have been more amplified had our author lived to be shocked with such experiments as have been performed in later times by a race of men who have practised torturing without pity, and are yet suffered to erect their heads among human beings.’

So wrote Dr. Johnson ; and he himself could hardly have anticipated the systematic devilishness of many French and some English surgeons in our own day.

I am now about to quote from ‘ Dogs : their Manage-

* Act i. Scene 6.

‘ment; being a new plan of treating the Animal, based
‘upon a consideration of his natural temperament;
‘illustrated by numerous woodcuts depicting the cha-
‘racter and position of the Dog when suffering Disease.’
By Edward Mayhew, M.R.C.V.S., author of ‘The Horse’s
‘Mouth, showing the age by the Teeth,’ editor of
‘Blaine’s Veterinary Art,’ &c. &c. London: George
Routledge and Co., 1858.

On page 163 he says: ‘The French have been sup-
‘posed to set this latter question at rest by a cruelty,
‘miscalled an experiment. They obtained forty dogs,
‘and withheld all drink from the unhappy beasts till
‘they died. Not one of them, however, exhibited
‘rabies, and by this the French philosophers think that
‘they have demonstrated that the disorder is not caused
‘by want of water. No such thing: they have proved
‘only their want of feeling, and shown nothing more
‘than that one out of every forty dogs is not liable to
‘be attacked with rabies. They have demonstrated
‘that the utmost malice of the human being can be
‘vented upon his poor dumb slave without exciting
‘rabies. They have made plain that the poor dog can
‘endure the most hellish torments the mind of man
‘can invent without displaying rabies. They have held
‘themselves up to the world, and in their book have
‘duly reported themselves, as capable of perverting
‘science to the most hideous abuses, and under its name
‘contemplating acts and beholding sufferings at which
‘the feelings of humanity recoil with disgust.’

Then on page 73: ‘The mouth of the dog is not
‘subject to many diseases; but it sometimes occasions
‘misery to the animal. Much of such suffering is con-

‘sequent upon the folly and thoughtlessness of people
‘who, having power given them over life, act as though
‘the highest gift of God could be rendered secondary
‘to the momentary pleasure of man. No matter in
‘what form vitality may appear, for itself it is sacred ;
‘it has claims and rights which it is equally idle and
‘ridiculous to deny or to dispute. The law of the land
‘may declare and make man to have a possession in a
‘beast ; but no Act of Parliament ever yet enacted has
‘placed health and life among human property. The
‘body may be the master’s, but the spirit that supports
‘and animates it is reserved to another. Disease and
‘death will resent torture, and rescue the afflicted. He
‘who undertakes the custody of an animal is morally
‘and religiously answerable for its happiness. To make
‘happy becomes then a duty, and to care for the welfare
‘is an obligation. Too little is thought of this, and the
‘fact is not yet credited. The gentleman will sport
‘with the agony of animals ; and to speak of considera-
‘tion for the brute, is regarded either as an eccentricity
‘or an affectation. This is the case generally at the
‘present time, and it is strange it should be so, since
‘Providence, from the creation of the earth, has been
‘striving to woo and to teach us to entertain gentler
‘sentiments. No one ever played with cruelty but he
‘lost by the game, and still the sport is fashionable.
‘No one ever spared or relieved the meanest creature
‘but in his feelings he was rewarded ; and yet there are
‘comparatively few who will seek such pleasure. Neither
‘through our sensibilities nor our interests are we quick
‘to learn that which Heaven itself is constantly striving
‘to impress. The dog is our companion, our servant,

‘ and our friend. With more than matrimonial faith does
‘ the honourable beast wed itself to man. In sickness
‘ and in health literally does it obey, serve, love, and
‘ honour. Absolutely does it cleave only unto one, for-
‘ saking all others ; for even from its own species does
‘ it separate itself, devoting its heart to man. In the
‘ very spirit, and to the letter of the contract, does it
‘ yield itself, accepting its life’s load for better, for
‘ worse ; for richer, for poorer ; in sickness and in
‘ health ; to love, cherish, and to obey till death. The
‘ name of the animal may be a reproach ; but the affec-
‘ tion of the dog realises the ideal of conjugal fidelity.
‘ Nevertheless, with all its estimable qualities, it is des-
‘ pised ; and we know not how to prize, or in what way
‘ to treat it. It is the inmate of our homes, and the
‘ associate of our leisure ; and yet its requirements are
‘ not recognised, nor its necessities appreciated. Its
‘ docility and intelligence are employed to undermine
‘ its health ; and its willingness to learn and to obey is
‘ converted into a reason for destroying its constitution.
‘ What it can do we are content to assume it was in-
‘ tended to perform ; and that which it will eat we are
‘ satisfied to assert was destined to be its food.’

I next quote from ‘The Life of Sir Astley Cooper,
‘ Bart.,’ by Bransby Blake Cooper, Esq., F.R.S. London :
John W. Parker, 1843. At page 200 of the first
volume I find this : ‘Dr. Roots, of Kingston, has re-
‘ counted me an anecdote, which well illustrates this
‘ feature in the character of Dr. Haighton. On the
‘ occasion of an interview between him and Sir Astley,
‘ a dispute arose upon a point of some professional im-
‘ portance, which even to this day remains unsettled.

' The discussion having been carried on for some time
' with considerable warmth, Sir Astley at last made a
' remark, the tendency of which was to controvert
' certain experiments made by the Doctor on the very
' subject in dispute, and to prove that he had been
' deceived by several sources of fallacy, which had ex-
' isted in the experiments themselves. To this the
' "merciless doctor" (this appellation is applied to Dr.
' Haighton in the course of an intemperate critique
' upon a Paper which he read before the Royal Society,
' in the winter of 1797: see "Pursuits of Literature,"
' page 419), as he was afterwards styled by the author
' of the "Pursuits of Literature," made no reply, but
' roused by the remarks, he called loudly to his servant,
' and ordered a pet and favourite spaniel to be imme-
' diately brought into the room. He asked Sir Astley
' to notice his bulk, his healthy aspect, and his good
' keeping, and this done, put a period to his existence in
' a moment. He then at once demonstrated the result
' of a most careful and rigid operation to which the un-
' fortunate animal had been subjected some three or
' four years preceding this *dénouement*. I mention
' this anecdote, (continues Dr. Roots,) which was one of
' many, to show the fervour which could be suddenly
' called forth in the Doctor's mind to the support of an
' asserted doctrine; for, if ever he had a favourite in
' animal life, this poor dog was one. His *tendo achillis*
' had been cut asunder; his *femoral artery* had been left
' "to Nature's curative process, having been subjected to
' operation; and his "*recurrent nerve*" (a nerve con-
' nected with the power of voice) had been divided, I
' rather think, to prevent his making known his subse-

‘quent sufferings; and it may be truly said the faithful animal had fairly won his honours; but to confute a rival in a question of science and physiology, my much-valued old friend and master made not the slightest scruple to sacrifice the only animal I ever knew him to be in the least degree attached to. This transaction I cannot, however, omit to say, was a source of great annoyance to me, and was the occasion of the only difference that ever existed between us during the whole time I had the advantage of living under his roof. I must again wind up my brief history with stating that, with all his foibles, and they were all of a little and trifling nature, Dr. Haighton was a most superior man in his perfect knowledge of the machinery of the human structure.’

Then at page 33† you will find this: ‘It was not only in respect to the objects which I have mentioned in the preceding chapter that Charles was rendered highly useful to Mr. Cooper, he also became a most efficient assistant to him in his more private associations. When animals were wanted for some physiological illustration or investigation, Charles was never at a loss to invent means of procuring them, and he tells me that he has known as many as thirty dogs, besides other animals, at one time in the hayloft, the subjects, or about to become so, of experiments connected with the pursuits of his master. To obtain these, Charles used to employ the servants, or any person indirectly connected with my uncle’s establishment, and to induce them to procure them, used to allow half-a-crown for each dog as soon as it was safely housed in the premises. This temptation, I

‘ have reason to believe, led to a frequent breach of
‘ the laws relating to dog-*stealing*, for my uncle’s old
‘ coachman has lately given me some idea of the
‘ system by which these animals were kidnapped into
‘ this scientific receptacle.’

We read to show how this tends to demoralise society. Here were the servants of this surgeon: he made *thieves* of them; they went and stole dogs for him, taking other people’s property. There is another extract in the same volume which I might read, but I think I should only take up your time by reading it; it backs up the other, but I do not think it requires backing up, it can stand by itself.

On page 443 of the second volume there is this note:
‘ His investigations on the two subjects alluded to were
‘ never made public. His experiments in the first case did
‘ not appear to him to furnish results sufficiently interest-
‘ ing or satisfactory for publication. In the second case
‘ he abruptly discontinued his inquiries for a remarkable
‘ reason. It was necessary for his object that a large
‘ number of animals should be experimented upon, and
‘ Mr. Parmenter, who was engaged in assisting him in
‘ them, informs me that he became afraid lest from
‘ their nature he should be accused of cruelty towards
‘ the subjects of his experiments, and hence desisted from
‘ the prosecution of this pursuit, and turned his atten-
‘ tion to the subject now under consideration. The
‘ experiments alluded to were intended to determine
‘ certain questions relative to the function of the
‘ brain.’

I conceive from that, Sir Astley was afraid of the accusation, not of the cruelty.

I shall now quote from 'Canine Pathology, or a description of the Diseases of Dogs,' &c., by Delabere Blaine. London: T. and T. Boosey, Old Broad Street, Royal Exchange: W. Simpkin and R. Marshall, Stationers' Hall Court, Ludgate Street, 1832. Third edition. Perhaps I ought to mention that Blaine is, I believe, from what I have heard from veterinarians, and also from what I have seen of his books myself, but judging principally from what other veterinarians say of him, the most distinguished veterinarian that this country or any other probably ever produced. He says, in regard to mineral poisons, at page 182: 'Those who wish for further information relative to the effects produced on dogs by various poisonous agents may consult Abbé Fontana, Orfila, Mr. Brodie' (the late Sir Benjamin, I believe), ' &c. &c., who have sacrificed more dogs, in experimental inquiry, *than humanity dares to think of, though science might demand it.*'

At page 35 there is this passage: 'I have thus far principally treated of the form and varieties of the dog; I would fain say something of his *qualities* also, that I might thereby more effectually advocate his cause, and that, by exciting inquiry into his real character and virtues, I might awaken a due consideration for him in the minds of those (of whom there are but too many) who now regard him with indifference, perhaps with contempt, or it may be with aversion. It is probable that such feelings arise in many, less from the natural impulses of the heart, than from a mistaken opinion of the actual rank that these animals ought to hold, by their services, their endearing qualities, and the entertainment they afford. If it were cus-

‘ tomary to consider the higher orders of brute animals
‘ in general, not as mere machines endowed with
‘ instinctive faculties only for the mere preservation of
‘ their existence and extension of their species, but, on
‘ the contrary, if they were universally regarded in
‘ their true light, as beings highly intellectual, actuated
‘ by the noblest passions, endued with memory and
‘ recollection, disposed to imitation, profiting by ex-
‘ perience, and acquiring skill from discipline and
‘ instruction, then we might hope to see them properly
‘ estimated, their importance acknowledged, and their
‘ treatment amended. The properties here detailed are
‘ in some degree common to all, but in the dog they
‘ shine with a lustre that none but those who study the
‘ animal can be aware of.’

I will now read from ‘ A Memoir of George Wilson,
‘ M.D., F.R.S.E., Regius Professor of Technology in
‘ the University of Edinburgh, and Director of the
‘ Industrial Museum of Scotland.’ By his Sister, Jessie
Aitken Wilson. Edinburgh: Edmonston and Douglas,
88, Prince’s Street; and Macmillan and Co., London
and Cambridge. 1860. On page 340 I read: ‘ It
‘ was at the request of the Council of the Cavendish
‘ Society, which includes nearly all the chemists of the
‘ country, and many of its natural philosophers, that
‘ Dr. Wilson undertook this biography’ (that is, of
Cavendish, the chemist); ‘ and how thoroughly he
‘ identified himself with the subject of his memoir we
‘ find from a letter written while engaged in the
‘ work:—“ I read all biographies with intense interest.
‘ “ Even a man without a heart, like Cavendish, I think
‘ “ about, and read about, and dream about, and picture

‘ “to myself in all possible ways, till he grows into a
‘ “living being beside me, and I put my feet into his
‘ “shoes, and become for the time Cavendish, and think
‘ “as he thought and do as he did.” ’

Then on page 347, speaking of Dr. Wilson, it says:
‘ It is seldom that we find a man so eminent in science
‘ retaining all the warmth and freshness of humanity
‘ about him. He clothes every subject he touches with
‘ the bright hues of fancy and the warm sympathies of
‘ a human heart.’

In speaking of the life which he wrote of the late Dr. John Reid, of St. Andrews, on page 344 there is this passage: ‘The great matter to be illustrated is
‘ the “eminent Christian example which Dr. Reid’s
‘ “later days afforded to all men, but especially his
‘ “professional brethren, who so much need to be re-
‘ “minded of the claims of Christianity upon them.” ’

The next quotations are from ‘Physiological, Anatomical, and Pathological Researches,’ by John Reid, M.D., Fellow of the Royal College of Physicians of Edinburgh, Chandos Professor of Anatomy and Medicine in the University of St. Andrews, &c. &c. Edinburgh: Sutherland and Knox. London: Simpkin, Marshall, and Co.; and Samuel Highley. 1848. The first passage will show how contradictory the opinions of vivisectors are. One seems to lay down a theory by experiments on animals, and then others disprove it. Nobody can wade through, (really that is what it has been to me,) the works of those men, without being forcibly struck by that; and really the want of intellect displayed by those men strikes one—the obtuseness, and want of perception.

At page 555 there is this passage : ‘ *Cause of death.*—
‘ The older experimenters attributed death from the in-
‘ flation of air into the veins, to distention of the right
‘ side of the heart arresting its contractions ; and some of
‘ them compared its condition to that of the bladder
‘ when over-distended with urine. Bichat maintained
‘ that death begins at the brain, and depends upon the
‘ circulation of frothy blood in the vessels of that organ.
‘ Nysten, Cormack, and Amussat have referred the
‘ death to the mechanical distention of the right side of
‘ the heart. Leroy and Piédagnel attributed it chiefly
‘ to emphysema of the lungs. Sir Charles Bell believed
‘ that the air, by circulating in the vessels of the medulla
‘ oblongata, annihilated the functions of that important
‘ portion of the central organs of the nervous system,
‘ and thus killed by arresting the respiratory muscular
‘ movements. Marchel de Calvi supposes that death is
‘ due to the action of the carbonic acid contained in the
‘ air, a supposition which could be readily disproved by a
‘ reference to some of Nysten’s experiments.* Bouillaud,
‘ in his report to the Academy, attributes the death
‘ partly to the distention of the right side of the heart,
‘ and partly to the difficulty of transmitting the frothy
‘ blood through the lungs ; and Mr. Erichsen refers it
‘ entirely to the latter of these two causes. Wattmann
‘ (page 70) gives at some considerable length his ex-
‘ planation of the cause of death, which is much too
‘ long to transcribe. He attributes it partly to the
‘ disturbance and enfeeblement of the contractibility of
‘ the heart, occasioned by the mechanical effects of the

* Opus. cit., p. 81.

‘ air in its cavities ; partly to the derangement of the
‘ respiratory function, and partly to the circulation of
‘ blood mixed with air in the capillary vessels of the
‘ systemic circulation being unable to maintain the
‘ nutrition and the vitality of the tissues, especially of
‘ such important organs as the brain, the spinal cord,
‘ the lungs, and the heart. We do not think it neces-
‘ sary to enter into any critical examination of the
‘ arguments advanced by the supporters of these
‘ *different explanations of the cause of death*, as the
‘ account which we have already given of the appear-
‘ ances observed after death, and the symptoms which
‘ precede it, but more especially the former, enables us
‘ to select the true one. As in almost all cases in dogs,
‘ in the majority of rabbits, and in individuals of the
‘ human species, and in a considerable number of horses
‘ and sheep killed either by the forced or the spon-
‘ taneous entrance of air into the veins, no air was found
‘ in the left side of the heart or in the arterial system,
‘ it is perfectly obvious that in all these cases the cir-
‘ culation of air in the arteries of the brain and in the
‘ medulla oblongata could not be the cause of death, for
‘ a thing which did not exist could not act. *The theories*
‘ *of Bichat and Sir Charles Bell cannot therefore explain*
‘ *the cause of death* in all or even the greater number of
‘ cases, and there is no evidence in their favour even in
‘ those cases where air was found in the left side of the
‘ heart and in the arterial system, for in all these the
‘ right side of the heart was, on an average, not less
‘ distended with air or frothy blood, and the death was
‘ not more rapid than when the air was entirely confined
‘ to the right side of the heart and the venous system.’

Then on page 44 he says: ‘ Since the above memoir
‘ was published, Mr. Erichsen (“ Edinburgh Medical
‘ “ and Surgical Journal,” January, 1845, vol. lxiii.) has
‘ given us the results of an extensive and careful ex-
‘ perimental inquiry into the pathology and treatment
‘ of asphyxia, and he confirms the accuracy of all my
‘ experiments and observations on this subject as far as
‘ he has repeated them. The amount of increase in
‘ the force with which the heart drives the blood along
‘ the arteries for a short time after an animal becomes
‘ insensible in asphyxia will, I believe, be found to
‘ correspond nearly in both our experiments, when the
‘ difference in the form of hemadynamometers used is
‘ taken into account. But while Mr. Erichsen does not
‘ object to my data, he dissents from one part of the
‘ theory of asphyxia deduced from them. We agree
‘ entirely in our explanation of the cause of the sus-
‘ pension of the sensorial functions; in fact, he has been
‘ pleased to say that he does not feel called upon to
‘ make any remarks on this point, as it has been fully
‘ and ably investigated in the above memoir; but we
‘ differ in our explanation of the arrestment of the
‘ circulation of the blood through the lungs. I have
‘ adopted the opinion that this is due to the cessation
‘ of the chemical changes between the blood and atmo-
‘ spheric air in the lungs; while Mr. Erichsen supposes
‘ that it depends upon the venous blood acting as an
‘ excitant upon the contractility of the ultimate ramifi-
‘ cations of the pulmonary veins, and thus causing an
‘ obstruction to its passage along these vessels. *This
‘ view of the cause of the accumulation of the blood in the
‘ pulmonic heart and its vessels, adopted by Mr. Erichsen,*

'appears to be incompatible with some well-established facts.'

Then on page 46 occurs this passage: '*Notwithstanding, therefore, all that Mr. Erichsen has so ingeniously advanced against the part of the theory of asphyxia that refers the impediment to the passage of the blood through the lungs to the cessation of the chemical changes which occur there in natural respiration, my belief in its truth has not been shaken.*'

It is often said, that in these experiments the animals do not feel. I will read a few statements made by Dr. Reid, himself, in regard to his own experiments, on page 62: 'When the glosso-pharyngeal was pricked by the forceps, the indications of suffering were distinctly, but not strongly, manifested; but the application of a tight ligature was evidently attended by intense pain: an effect which we were somewhat surprised to find also attended the application of a tight ligature to the hypoglossal.'

Then on page 73: 'With the exceptions mentioned, very severe indications of suffering, and, in a few cases, also distinct muscular twitchings of the neck and face, attended the pinching and cutting of this nerve.' That is headed, 'Experimental investigation into the functions of the eighth pair of nerves.'

Then on page 92: 'I have exposed the trunk of the *par vagum* in the neck in at least thirty animals, and in almost all of these the pinching, cutting, and even the stretching of the nerve were attended by *indications of severe suffering.*' Those words, 'indications of severe suffering,' he has placed in italics himself. 'It was frequently difficult to separate the nerve from

‘ the artery on account of the violent struggles of the animal, though some of them had been pretty quiet during the previous part of the operation.’

Then on page 169 occurs the following passage: ‘ *As statements such as those of Mr. Brachet are, however, more effectually met by facts than by arguments*’ (I should say I believe Mr. Brachet was considered one of the most eminent medical practitioners and scientific men of France in his day), ‘ I proceeded to put them to the test of experiment. These experiments were seven in number, and six of them were made in the following manner: the vagi and sympathetics, and in some cases the recurrents also, were cut in the middle of the neck, and a portion of each removed. At a longer or shorter period after the operation, the pulsations of the heart were reckoned when the animal was lying or standing on the ground, and after it had been caressed for some time to calm its fears. It was then lifted up on the table, on which it had been previously tied and operated upon, and, after having been spoken to harshly, the pulsations were again reckoned. After being again caressed for some time, the pulsations were counted a third time, and when replaced upon the ground they were reckoned a fourth time. The following results were obtained: In the first dog, the pulsations of the heart were about 140 before the commencement of the experiment. The animal at this time was apparently somewhat alarmed. Four hours and a half after division of the nerves the pulsations of the heart were about 170, when the animal was standing on the ground, and rose to 200, at least, when placed upon the table.

‘ After it was replaced on the ground they had again
‘ fallen to 170. After nineteen hours, the pulsations
‘ were 160 on the ground; they rose again to about
‘ 200 when placed on the table, again fell to about 160
‘ when still on the table, and were not increased by
‘ being replaced on the ground. In the second dog
‘ the pulsations were 156 on the floor, and about 190
‘ on the table; and in the third dog they rose twenty
‘ beats in the minute when placed on the table. In
‘ both of these two last experiments the pulsations of
‘ the heart soon subsided to their former frequency,
‘ and were not increased by replacing the animals on
‘ the ground. In the fourth dog the pulsations twenty-
‘ four hours after division of the nerves were 140 on the
‘ floor, and instantly rose to 180 on the table. After
‘ waiting until they had again fallen to their former
‘ frequency, they were not increased by replacing it on
‘ the ground. In the sixth dog the pulsations were
‘ 140 the third day after the action of the nerves, when
‘ the animal was on the floor, and were raised to 160
‘ by placing it on the table. In these experiments it
‘ was particularly observed that the animals made no
‘ struggles in carrying them to and from the table, and
‘ consequently the increased excitation of the heart
‘ must have arisen from the *mental emotion of terror*.
‘ In the seventh dog this was conjoined with violent
‘ struggles. The pulsations, eight hours and a half
‘ after the operation, were 130; when placed on the
‘ table, and made to struggle, the pulsations, as far as
‘ could be made out, were about 220; when he had
‘ been subjected to pain, and had struggled more vio-
‘ lently, they became so frequent that they could not

' be accurately reckoned, but were at least 260 in the
' minute. A large tube had been previously intro-
' duced into the trachea in this last animal. - These
' experiments are, we conceive, sufficient to prove that,
' after section of the vagi, the pulsations of the heart
' may not only be quickened by muscular exertion, but
' also by mental emotions. Though, in all probability,
' the vagi are the usual channels through which mental
' emotions affect the heart, yet it appears from these
' experiments that this may also take place through the
' medium of the ganglionic system of nerves.

' *Pulmonary Branches of the Vagus.*—In my former
' Paper I gave the results of several experiments, from
' which, *in opposition to the observations of Magendie,*
' *Wilson, Philip, and Swan,* I concluded "that lesion of
' "one of the pneumogastrics does not necessarily, or
' "even generally, induce disease of the lung of that
' "side." Since that time I have carefully examined
' the lungs of two dogs and a cat, killed some time
' after a portion of one vagus had been removed. One
' dog lived two months, the other nine days, and the
' cat three weeks. No morbid change could be detected
' in the lungs.'

' Then on page 193: 'To show that others have also
' sometimes observed great insensibility of the mucous
' membrane of the trachea, even when the vagi were
' entire and uninjured, I have only to refer to the
' works of Haller. He there relates several experi-
' ments upon different species of quadrupeds: two cats,
' a she-goat, a rabbit, a lamb, a he-goat, and a sheep,
' in which the trachea was opened, and various irritat-
' ing substances, such as oil of vitriol, butter of anti-

‘mony, and fumes of sulphur were introduced into the
‘air-passages without exciting cough. Some of the
‘animals gave indications of suffering, and breathed
‘forcibly.’

Then on page 197 (this was his own experiment):
‘The animal, the subject of the fourteenth experiment,
‘coughed so incessantly during the last three days of
‘its life that I could not reckon the respirations until
‘after many trials, and even then imperfectly.’

Then on page 87: *‘It is unnecessary to state how
‘much these experiments are at variance with the opinion
‘of Sir C. Bell, that the function of this nerve is to
‘associate the movements of the tongue and pharynx
‘with the muscles of respiration in the instinctive
‘movements of deglutition;’* and that is the way they
go on.

Then on page 88: ‘We have, lastly, to inquire in
‘what manner the section of the glosso-pharyngeal
‘nerve affects the sense of taste. My observations on
‘this head are in perfect accordance with those of Dr.
‘Alcock. Dr. Alison had an opportunity of witnessing
‘the persistence of the sense of taste in one of the dogs
‘after a portion of the trunk of the nerve on both sides
‘had been removed; and Dr. Sharpey was perfectly
‘satisfied that the animal, the subject of the sixth
‘experiment, was sufficiently sensible of disagreeable
‘impressions upon this sense; and though in the case
‘witnessed by Dr. Alison, a few pharyngeal filaments,
‘and in that witnessed by Dr. Sharpey, one pharyngeal
‘twig on one side, were found to have been left uncut,
‘yet it was obvious that the rejected morsel sprinkled
‘with coloquintida was fully recognised before it passed

‘beyond the anterior part of the mouth. I need not
‘add that the lingual portion of the nerve was fully
‘divided in both of these cases. The remark, however,
‘was repeatedly made (and it is of importance as ex-
‘plaining *the error of Panizza* on this point), that if
‘animal food was offered, and the dog very hungry,
‘he would eat the morsel containing the coloquintida
‘rather than lose it, though he refused it if he saw
‘any prospect of procuring another free from the
‘bitter. The subject of the first experiment in which,
‘as was stated, the glosso-pharyngeal was cut on one
‘side only, even ate readily several pieces of bread
‘dipped in a strong solution of gentian-root.’ (Othello,
I think, says, ‘As bitter as coloquintida.’ I suppose
they picked out the bitterest thing they could find.)
‘Lest any doubt may arise that the presence of a few
‘pharyngeal branches could have influenced the sense
‘of taste, I may adduce the subject of the fourteenth
‘experiment to prove that when the nerve is divided
‘before it has given off a single filament, still the
‘animal retains a sufficiently acute perception of dis-
‘agreeable savours. I have fed that dog with morsels
‘of animal food from my hand, and after he had taken
‘several morsels in this way, which he readily swal-
‘lowed, I then presented a morsel similar in size to
‘the others, and with the coloquintida concealed in a
‘way that he could not see it, but no sooner was it
‘taken into the mouth than it was rejected with evi-
‘dent symptoms of disgust. This was repeated more
‘than once.’

Then on page 90 this passage occurs: ‘I endeavoured to ascertain the state of the sensibility and of

‘ the sense of taste in that portion of the tongue where
‘ this nerve is ramified, after the trunk had been
‘ divided on both sides, but from the restlessness and
‘ struggles of the animals, I was unable to arrive at
‘ any satisfactory results.’ All that torture was thrown
away, even according to his own account. He had
knocked down Bell, I suppose, and some one will
knock him down, if some one has not done it already.

Then I find this at page 163: ‘*Pneumogastric Nerves.*
‘—I have again had ample opportunities of confirming
‘ the statement made in my former communication,
‘ drawn from experiments upon dogs, rabbits, cats, and
‘ calves, that the pinching, cutting, and even the
‘ stretching of the vagi nerves, when exposed in the
‘ neck, are, in by far the greater majority of cases, at-
‘ tended by indications of severe suffering. *In opposi-*
‘ *tion to the opinion expressed by Dr. M. Hall and Mr.*
‘ *Broughton*, that the nervus vagus is not a nerve of
‘ sensation, I adduce the authority of Haller, Brunn,
‘ Dumas, and Dupuy. If additional evidence be
‘ thought necessary, I may also add to those the names
‘ of Molinelli, Mayo, Magendie, and Brachet. In the
‘ first and fifth experiments upon the vagus related by
‘ Molinelli, it is expressly mentioned that the animals
‘ (dogs) gave indications of suffering, in tying these
‘ nerves with a ligature. Mr. Mayo says, that “asses,
‘ “cats, and dogs, almost invariably express great pain
‘ “when this nerve, yet entire, is pinched with the
‘ “forceps; and after its division, equal suffering ap-
‘ “pears to result from pinching the part connected
‘ “with the brain.” Magendie, in pointing out to his
‘ pupils an experiment where the nerve was stretched

‘and cut without exciting pain, remarked, “In certain
‘“cases, on the contrary, the nervus vagus appears to
‘“possess the most exquisite sensibility, for it is
‘“scarcely touched without exciting, immediately,
‘“cries and motions.”’ (That does not look as if they
felt no more than a pianoforte, as Dr. Crichton Browne
stated of Dr. Ferrier’s experiments.) ‘Brachet in one
‘experiment irritated the upper end of the cut vagus,
‘with the view of subjecting the animal to suffering,
‘and with success. I attempted to give an explana-
‘tion of *the source of fallacy which had united Dr. M.*
‘*Hall and Mr. Broughton* in their very limited number
‘of experiments; but I am now convinced that there
‘is another circumstance more likely to lead to such
‘errors than the one I mentioned, and that is the very
‘different degree of sensibility possessed by different
‘animals, even of the same species.’

Then at page 64 there is this: ‘Part First, *Glottio*
‘*Pharyngeal Nerve*.—The experiments on this nerve
‘were all performed upon dogs, and were twenty-seven
‘in number. Seventeen of these were for the pur-
‘pose of ascertaining if it should be considered a nerve
‘both of sensation and motion, and what are the effects
‘of its section upon the associated movement of de-
‘glutition and on the sense of taste. The other ten
‘were performed upon animals immediately after they
‘had been deprived of sensation.’

Now, if you will allow me to make the remark, I
will read the two next short sentences out of justice to
this Dr. Reid. So far as my experience has gone, it is
almost, if not quite, the only instance in which I have
found a thorough ‘physiologist.’ I use the word in

the sense of an experimenter upon animals, putting them to torture for so-called scientific purposes, with any shade at all of mercy, and perhaps that bore fruit in regard to his last hours. On page 112 I find this: 'I was anxious to ascertain whether irritation of these nerves would produce closure of the glottis by a reflex action. As the experiment is one in which it is difficult to arrive at accurate conclusions without inflicting much pain, I did not persevere in the attempt.' Then on page 221: 'The muscular movements of the stomach were, however, in all of these animals so indistinctly marked that I could obtain no satisfactory result, and as the experiment was a cruel one, I did not persevere in it.'

I will now read from 'Lockhart's Life of Scott,' volume ix., page 297, chapter 77. 'Letter to Miss Edgeworth, 4th of February, 1829.' I must hark back in regard to this. I am going to read this to strengthen what I stated in regard to the demoralising effect which torturing animals produces upon those who inflict that torture, and I am now about to bring forward the evidence of no less a man than Sir Walter Scott; not only a man, as everybody knows, of high intellectual calibre, but no one could call him unduly sensitive or enthusiastic, for a more daring and intrepid man has seldom lived. 'I am no great believer in the extreme degree of improvement to be derived from the advancement of science, for every study of that nature tends, when pushed to a certain extent, to harden the heart, and render the philosopher reckless of everything save the objects of his own pursuit. All equilibrium in the character is destroyed, and the visual force of the

‘ understanding is perverted, by being fixed on one object exclusively. Thus we see theological sects (although inculcating the moral doctrines) are eternally placing man’s zeal in opposition to them; and even in the practice of the Bar it is astonishing how we become callous to right and wrong when the objection is to gain or lose a cause. I have myself often wondered how I became so indifferent to the horrors of a criminal trial if it involved a point of law. In like manner, the pursuit of physiology inflicts tortures on the lower animals of creation, and at length comes to rub shoulders against the West Port (a low part of Edinburgh, where the wretches Burke, Hare, and others murdered their victims to sell their bodies to the anatomists). ‘ The state of high cultivation to which we have arrived is perhaps scarcely a national blessing, since while the *few* are improved to the highest point, the *many* are in proportion tantalised and degraded, and the same Nation displays at the same time the very highest and very lowest state in which the human race can exist in point of intellect. ‘ *Here*, is a doctor who is able to take down the whole clockwork of the human frame, and may in time find some way of repairing and putting it together again; and *there*, is Burke with the body of his murdered countrywoman on his back, and her blood on his hands, asking his price from the learned carcase butcher.’

I shall next quote from ‘ Personal Recollections from ‘ Early Life to Old Age of Mary Somerville,’ &c. London: John Murray, Albermarle Street. 1874. I do not think I can bring forward any authority more

deserving of respect. She was so appreciated by scientific men, that her bust is placed in the rooms of the Royal Society, an honour which I think was never before conferred upon any lady, at least I believe so; it is many years since I saw it. At page 192 you will find this: 'The Marquise de La Place was commissioned by Dr. Magendie to invite me to meet her and Madame Gay-Lussac at dinner. I was very unwilling to go, for I detested the man for his wanton cruelties, but I found I could not refuse on account of these ladies. There was a large party of *savants*, agreeable and gentlemanly, but Magendie himself had the coarsest manners; his conversation was horribly professional; many things were said and subjects discussed not fit for women to hear. What a contrast the refined and amiable Sir Charles Bell formed with Magendie! Magendie and the French School of Anatomy made themselves odious by their cruelty, and failed to prove the true anatomy of the brain and nerves; while Sir Charles Bell did succeed, and thus made one of the greatest physiological discoveries of the age without torturing animals, which his gentle and kindly nature abhorred.'

At page 306 there is this passage: 'A German Professor of Physiology at Florence roused public indignation by his barbarous vivisections, and there was a canvass for a memorial against this cruel practice. Miss Cobbe took a leading part in this movement, and I heartily joined, and wrote to all my acquaintances, requesting their votes; among others, to a certain Marchese who had published something on agriculture. He refused his vote, saying, "Perhaps I was

“not aware that the present state of science was one
“of induction.” Then he went on explaining to me
“what “induction meant,” which amused me not a little.’

On page 348, this is towards the close of her life, she says: ‘The short time I have to live naturally occupies
‘my thoughts. In the blessed hope of meeting again
‘with my beloved children, and those who were and are
‘dear to me on earth, I think of death with composure
‘and perfect confidence in the mercy of God. Yet to
‘me, who am afraid to sleep alone on a stormy night, or
‘even to sleep comfortably any night unless some one is
‘near, it is a fearful thought, that my spirit must enter
‘that new state of existence quite alone. We are told
‘of the infinite glories of that state, and I believe in
‘them, though it is incomprehensible to us, but as I
‘do comprehend, in some degree at least, the exquisite
‘loveliness of the visible world, I confess I shall be
‘sorry to leave it. I shall regret the sky, the sea, with
‘all the changes of their beautiful colouring; the earth
‘with its verdure and flowers; but far more shall I
‘grieve to leave animals who have followed our steps
‘affectionately for years, without knowing for certainty
‘their ultimate fate, though I firmly believe that the
‘living principle is never extinguished. Since the
‘atoms of matter are indestructible, as far as we know,
‘it is difficult to believe that the spark which gives to
‘their union, life, memory, affection, intelligence, and
‘fidelity, is evanescent. Every atom in the human frame,
‘as well as in that of animals, undergoes a periodical
‘change by continual waste and renovation; the abode
‘is changed, not its inhabitant. If animals have no
‘future, the existence of many is most wretched;

‘multitudes are starved, cruelly beaten, and loaded during life; many die under a barbarous vivisection. I cannot believe that any creature was created for uncompensated misery, it would be contrary to the attributes of God’s mercy and justice. I am sincerely happy to find that I am not the only believer in the immortality of the lower animals.’

This is a quotation from Pope: ‘I cannot think it extravagant to imagine that mankind are no less, in proportion, accountable for the ill use of their dominion over creatures of the lower rank of beings, than for the exercise of tyranny over their own species. The more entirely the inferior creation is submitted to our power, the more answerable we should seem for our mismanagement of it; and the rather, as the very condition of nature renders these creatures incapable of receiving any recompense in another life for their ill-treatment in this.’ A friend of Pope’s having mentioned to him the celebrated Dr. Stephen Hales, (whose experiments on living animals can scarcely be justified by any results derived from them), as a very good and worthy man: ‘Yes,’ replied Pope, ‘he is a very good man, only I am sorry he has his hands so much imbrued in blood. What, he cuts up rats? Ay, and dogs too!’ (With what emphasis and concern he spoke it!) ‘Indeed, he commits most of these barbarities with the thought of being of use to man; but how do we know that we have a right to kill creatures that we are so little above as dogs, for our curiosity, or even for some use to us?’ See ‘Spence’s Anecdotes,’ Singers’ edition, page 203; and Pope’s Paper in the ‘Guardian,’ on Animals, 21st May, 1713.

5565a. Mr. *Huxley*: What is the title of the book from which you read that?—‘*Researches into the History of the British Dog*,’ published in 1866.

5565b. By whom is it written?—By myself.

I shall now quote from ‘*Proceedings of the Royal Society*,’ vol. xxii. No. 151. This is the substance of what I read when I attended here on the previous occasion in regard to Dr. Ferrier’s experiments, March 5th, 1874, Joseph Dalton Hooker, C.B., President, in the Chair. The following Paper was read: ‘*The Localisation of Function in the Brain*,’ by David Ferrier, M.A., M.D., M.R.C.S., &c., 1874 (Abstract). The chief contents of this Paper are the results of an experimental investigation tending to prove that there is a localisation of function in special regions of the cerebral hemispheres. In a former Paper, published by the author in the ‘*West Riding Lunatic Asylum Medical Reports*,’ vol. iii. 1873, the results were given of experiments on rabbits, cats and dogs, made specially for testing the theory of Hughlings Jackson that localised and unilateral epilepsies are caused by irritation or ‘discharging lesions’ of grey matter of the hemispheres in the region of the corpus striatum. Besides confirming Hughlings Jackson’s views, the author’s researches indicated an exact localisation in the hemispheres of centres or regions for the carrying out of simple and complex muscular movements of a definite character, and described by him as of purposive or expressional nature. Facts were also recorded tending to show that other regions of the brain were connected with sensory perception, but no localisation was definitely arrived at. Among the experiments now related are some in further

confirmation and extension of those already made on cats, dogs, and rabbits, as well as a new series of experiments on other vertebrates. In particular, numerous experiments on monkeys are described, for the purpose of which the author received a sum of money from the Council of the Royal Society. In addition, the results of experiments on jackalls, guinea-pigs, rats, pigeons, frogs, toads, and fishes are narrated. 'The method of 'investigation' (I wish to draw particular attention to this passage, as a 'good deal has been said about the animals being under anæsthetics) 'consists in the application of the stimulus of an induced current of electricity directly to the surface of the brain in animals 'rendered only partially insensible during the process 'of exploration, complete anæsthesia annihilating all 'reaction. It is supplemented by the method of 'localising destructive lesions of the hemispheres.' That was the point that we wished to make about that.

I shall now quote from p. 378 of 'Proceedings of the 'Royal Society,' vol. xxiii. No. 161, April 25th, 1875, 'The Duke of Devonshire, K.G., in the Chair. The 'Right Hon. W. E. Forster, and The Right Hon. Russell 'Gurney were admitted into the Society. And at p. 409 I find: 'Experiments on the Brain of Monkeys,' No. 1, by David Ferrier, M.A., M.D., M.R.C.P., Professor of Forensic Medicine, King's College, London. Communicated by Dr. J. B. Sanderson, F.R.S. The facts recorded in this Paper are the results obtained by electrical stimulation of the brain of monkeys after the method described by the author in the 'West 'Riding Lunatic Asylum Medical Reports,' vol. iii. 1873. They formed part of a Paper, 'On the Localisation of

'Function in the Brain,' read before the Royal Society on March 5th, 1874 (see 'Proceedings,' vol. xxii. p. 229). This memoir also contained the results of other experiments on the brain of monkeys, chiefly relating to the effects of localised lesions of several parts of the hemispheres, with a view to determine the significance as regards sensation and motion of the phenomena caused by electrical irritation. These experiments are not here recorded, but are reserved for comparison with the results of a more extended reinvestigation of a similar nature on which the author has been for some time engaged, and which will shortly be laid before the Society. In order to avoid unnecessary detail, and in order to place the results together for the purposes of comparison, the animals experimented on are described, the dates of experiment given, and numbers assigned to them, so that they may all be brought into relation with each other. 'Experiments on Monkeys' (Macaques), No. 1, left hemisphere, June 14th, 1873; 'No. 2, right hemisphere, June 18th, 1873,' and so on at different dates, thirteen of them.

Then at pages 419 and 420 I read: 'X. A similar result. In this case, after several other parts had been under exploration, excitation of this region gave rise to a species of epileptic fit, beginning in the left angle of the mouth, next proceeding to the left arm and hand, and lastly affecting the left leg and tail. The spasms next attacked the right angle of the mouth, the right arm, and the right leg in succession. The fit lasted several minutes. The pupils were not dilated, nor did the animal apparently lose consciousness completely.'

Then on page 423, speaking of Experiment XIII.:
'The result in this case was also negative. To test
'this matter more fully, another monkey, not among
'those already numbered, was experimented on on
'December 10th.'

On page 424 there is this paragraph: 'In a later
'experiment (December 2nd) on another monkey it
'was found that stimulation of the frontal part of the
'brain caused the eyes to move to the opposite side.
'This was found to be the case with irritation of both
'right and left hemispheres. The eyelids were not
'always opened, however, nor was dilatation of the
'pupils observed. Sometimes also the eyes moved
'upwards instead of to the opposite side,' &c.

On page 425 there is this passage: 'IX. Both eyes
'directed upwards and to the left. Pupils contracted.
'In this animal,' (I beg particular attention to this,)
'which was allowed to remain quite conscious during
'stimulation, an experiment was made as to vision by
'holding before it a teaspoonful of milk, which it was
'eager to seize. In its attempt this point was stimu-
'lated, with the effect of causing confusion of vision and
'some difficulty in reaching the milk.'

At the bottom of page 426 this paragraph occurs:
'*Nothing very definite was arrived at.* In some the
'results were altogether negative; in others the fol-
'lowing phenomena were noted, perhaps not altogether
'satisfactory as to their nature.'

Then I find on page 428 this: '*Occipital lobes*
'(superior and middle convolutions).—These were ex-
'perimented on in 1, 3, 5, 7, 8, 9, 10, 11, and 12; also
'in another, not numbered, on November 21. In the

‘ case of 10, it was observed that stimulation of the
‘ inferior occipital convolution towards its inner aspect
‘ caused uneasy movements in the hind-legs and tail,
‘ the head being turned to the left (opposite side), and
‘ backwards. Occasionally also a plaintive cry, as if
‘ from annoyance, was uttered. On cessation of the
‘ irritation, the animal subsided into its dozing state.’

On page 429 there is this passage: ‘ *Corpora quadri-*
‘ *gemina.*—The ganglia were subjected to experimenta-
‘ tion in the following seven cases, viz., V., VI., VIII.,
‘ IX., X., XII., XIII., with the results. V. In this case
‘ the exploration was not sufficiently definite, as the
‘ exact position of the electrodes was not observed, and
‘ death occurred before a more careful exploration could
‘ be made. The application of the electrodes to the
‘ ganglia on the left side (position as to the testes or
‘ nates not ascertained) caused the animal to utter
‘ various barking, howling, or screaming sounds of an
‘ incongruous character. The head was drawn back and
‘ to the right, and the right angle of the mouth was
‘ strongly retracted, while the stimulation was kept up.
‘ The tail was raised and the limbs were thrown into
‘ contortions; but nothing further was ascertained, as
‘ the animal died from hemorrhage. VI. In this case
‘ irritation of the right anterior tubercle (nates) caused
‘ intense dilation of both pupils (especially beginning
‘ in the left), elevation of the eyebrows, and turning of
‘ the eyeballs upwards and to the left, at the same time
‘ that the head was turned in the same direction, with
‘ an intensely pathetic expression. Momentary appli-
‘ cation of the electrodes to the posterior tubercles
‘ (testes) caused the animal to bark loudly, the sound

‘ passing with longer stimulation into every conceivable
‘ variation of howling and screaming. Continuous appli-
‘ cation of the electrodes for several seconds caused
‘ ultimately firm clenching of the jaws, retraction of the
‘ angles of the mouth (particularly the left), elevation
‘ of the eyebrows, and retraction of the ears. The
‘ pupils were dilated, eyes widely open, and the head
‘ thrown back. The tail became elevated, the limbs,
‘ after contortions of various kinds, became rigidly drawn
‘ back, the arms drawn back and flexed at the elbows,
‘ and closely approximated to the sides. A complete
‘ state of opisthotonus was induced. The dilatation of
‘ the pupils occurred on irritation of both nates and
‘ testes, the screaming, &c., only on irritation of the
‘ testes. VIII. The results in this case were essen-
‘ tially the same in VI. as regards the dilatation of the
‘ pupils, howling, and rigidity of the limbs, &c. IX. As
‘ before, stimulation of the anterior tubercle on the
‘ right side caused elevation of the eyebrows, dilatation
‘ of the pupils, and turning up of the eyes to the left.
‘ Irritation of the ganglia for some time caused a con-
‘ dition of opisthotonus, and the phenomena described
‘ under VI. Irritation of the testes caused utterance of
‘ every variety of barking and howling, ultimately tris-
‘ mus, and general opisthotonus. X. Exactly as in IX.
‘ XII. As before, irritation of the testes caused barking
‘ and howling. When the animal was nearly dead,
‘ irritation of the testes caused only powerful retraction
‘ of the angles of the mouth, so as to show the firmly-
‘ clenched teeth. XIII. In this case the results as to
‘ the nates and testes were in every respect similar to
‘ those already detailed in the former cases.’ Then he

goes on to say at the bottom: 'On this point, however, *further experiments are necessary.*'

Now I will quote from '“Proceedings of the Royal Society,” volume xxiii., No. 162, May 13th, 1875. Dr. J. Burdon-Sanderson, Vice-President, in the Chair. The Croonian Lecture, “Experiments on the Brain of “Monkeys” (second series), was delivered by David Ferrier, M.A., M.D., Professor of Forensic Medicine, King's College. Communicated by Dr. Sanderson, V.P.R.S. Received April 27, 1875. The following is an abstract.’ And it says on page 432: ‘No. 5. Destruction of the hippocampus major and hippocampal convolution abolishes the sense of touch on the opposite side of the body? No. 9. Ablation of the occipital lobes produces no effect on the special senses or on the powers of voluntary motion, but is followed by a state of depression and refusal of food not to be accounted for by mere constitutional disturbance consequent on the operation. The function of these lobes is regarded as still obscure, but considered to be in some measure related to the systematic sensations. Their destruction does not abolish the sexual appetite.’ (I wonder how he arrived at that! He made some experiments, no doubt, in that way, after the style, I suppose, of Dr. Brachet, described by Dr. Elliotson; at least it seems probable.) ‘10. After removal both of the frontal and occipital lobes, an animal still retains its faculties of special sense and the powers of voluntary motion.’ Then I would refer you to ‘Proceedings of the Royal Society,’ vol. xxiii. No. 159.

I will next quote from the ‘St. Bartholomew’s

'Hospital Reports,' vol. ix. (London : Longmans, Green & Co., 1873), article 12, page 161 : 'On the Changes of the Liver which follow Ligature of the Bile Ducts, by 'J. Wickham Legg, M.D.' On page 162, he says this : 'During the past winter I have made several observations upon the changes which follow ligature of the bile ducts in animals. The animals used were cats ; these seemed to survive the operation better than dogs. Most observers find that dogs live only five to ten days after.' Long enough in that misery !

Then on page 163 he goes on to say : 'All the operations recorded in this Paper were done in the pharmacological laboratory of my friend and colleague, Dr. Brunton. I am therefore glad of this opportunity to express my most sincere thanks to him for his courtesy on this as on many other occasions. Had I to repeat these experiments, I should choose only young, not fully-grown animals, and a warm time of year. Though the cats were kept in a warm place, and the January of this year was mild, yet three of them were found dead one morning after a slight frost in the night.'

Then on page 175, 'Experiment XVI.,' that is on sixteen cats, I believe. (I do not read the others, because they would not strengthen our cause, and would only take up time ; and one sack of wheat out of a hundred, of course, is sufficient to show the character of the other sacks.) 'June 27. Black-and-white cat, well nourished, full-grown. Bile duct tied double, and piece cut out. July 3' (that will be six days afterwards). 'As the cat was now very weak, and seemed about to die, it was determined to make the

‘diabetic puncture. The cat was therefore laid prone, ‘a cut made through the skin over the occipital protuberance, and the chisel applied immediately underneath this. After dividing the occipital bone, the ‘chisel was passed in a direction downwards and forwards, so as to cut the line made by joining the two ‘auditory meatus. The chisel was pushed on until it ‘met with the basilar bone, and was then withdrawn. ‘Operation was over at 12.30. Before the operation the cat had languidly taken a little milk; ‘urine passed during the operation; though highly ‘jaundiced, gave no reaction with Trommer’s test. ‘At 2.15 urine passed out of the bladder gave no ‘reaction with Trommer’s test. July 4. Cat still ‘alive; urine gave no reaction with Trommer’s or ‘Moore’s test. July 7. The cat died in the night, ‘between July 5 and 6. Examined to-day, at two ‘o’clock. Much more peritonitis than in any other of ‘the experiments. The upper and under surfaces of ‘the liver covered with a layer of exudation; the fluid ‘in belly putrid. Complete obstruction of the gall ‘duct. No microscopical examination of the liver.

‘Analysis of the foregoing cases:—As regards time ‘of death; sixteen cats had their bile ducts tied; three ‘of these died from prolapse of the bowels, two on the ‘fifth, and one on the seventh day after the operation. ‘Another cat had the diabetic puncture done on the ‘sixth day after the operation, and died, probably, on ‘the ninth day. So, in twelve only was the natural ‘progress of events interfered with. ‘Out of these ‘twelve, two died on the third day, two on the fourth, ‘and one on the eighth, tenth, fourteenth, sixteenth,

‘ eighteenth (but in this case only the left hepatic duct
‘ was tied), and twentieth days respectively. Two cats
‘ were killed on the twenty-seventh and twenty-ninth
‘ days; the bile had found again a natural passage to
‘ the intestines. This curious result was noticed by
‘ Brodie, one of the earliest to make the experiment
‘ of ligature of the bile ducts (Brodie, “Quarterly
‘ “Journal of Science, &c.” (London, 1823), vol. xiv.,
‘ p. 344).’

Then on page 177: ‘ *The cause of death in these*
‘ *creatures is obscure.* Blondlot, and many other ob-
‘ servers, attribute it to peritonitis. Blondlot gives a
‘ distinct cause. *He* says that the ligature eats through
‘ the bile duct; the bile is thus poured into the peri-
‘ toneum. (Blondlot, “*Traité analyt. de la Digestion*,”
‘ Paris, 1843, p. 174.) In my own cases, *I did not*
‘ *notice this in one instance*, although in all cases the
‘ bile ducts were carefully dissected out. The ligature
‘ was around the duct in every case. Peritonitis can
‘ scarcely be set down as a valid cause. In all, the
‘ marks of peritonitis were so slight, and so limited to
‘ the part between the under surface of the liver and
‘ the duodenum, that it was impossible to attribute the
‘ fatal result to this local disturbance. In none of my
‘ cases, too, was the suppuration from the wound at all
‘ considerable. It had usually ceased at the end of the
‘ first week.’

Then in the next paragraph he says: ‘ *Leyden*
‘ *seems to think* that it is the addition of the jaundice
‘ to the peritonitis which kills the animals. Experi-
‘ ment XV. *would seem to discredit this explanation.*
‘ Here only one branch of the hepatic duct was tied;

‘yet the cat died on the eighteenth day, although no
‘jaundice had been set up at the time of death.
‘Again, dogs, in whom biliary fistulæ have been set
‘up and again closed, live for months, notwithstanding
‘an intense jaundice. *I should be far more inclined*
‘to attribute the cause of death to the changes which
‘take place in the liver.’ I do not think I need go on
with that; there is enough to show that he disagrees
with him on the point.

I will next quote from the ‘British Medical Journal,’
October 23, 1875: ‘Experiments on the Biliary Secre-
‘tion of the Dog,’ by Wm. Rutherford, M.D., F.R.S.E.,
Professor of the Institutes of Medicine in the Univer-
sity of Edinburgh, and M. Vignal ——. I do not
wish to read much out of this; I bring it forward partly
to show that these painful experiments upon animals
are still carried on; at all events, this appears to be
incomplete, and it is of the date I have just read. So
it shows that these men do not care to wait for any
opinion of the Royal Commission; but are going on
on their part, and in a way which we esteem contrary
to the Act of Victoria.

‘Two years ago Röhrig,’ and so on, ‘performed a
‘number of experiments on the effect of various sub-
‘stances on the biliary secretion,’ and so on. ‘*Method*
‘*of experiment.*—All our experiments were performed
‘on dogs that had, in nearly every instance, fasted
‘about eighteen hours. After paralysing the animal
‘with curara, and establishing artificial respiration, we
‘opened the abdomen in the linea alba, and tied a
‘glass cannula in the common bile duct, near its junc-
‘tion with the duodenum. To the end of the cannula,

‘ which projected from the abdomen, we attached a
‘ short india-rubber tube, and to the end of this again a
‘ short tube of glass, drawn to a narrow aperture, so
‘ that the bile might drop from it. The gall-bladder
‘ was then compressed, in order to fill the whole tubing
‘ with bile, and the cystic duct was clamped to prevent
‘ the return of the bile to the gall-bladder, and so
‘ compel all the bile secreted by the liver to flow
‘ through the cannula. The wound in the abdominal
‘ wall was then carefully closed, and in all our later
‘ experiments the animal was thoroughly covered with
‘ cotton-wool, in order to quickly restore it to its normal
‘ temperature.’

Then page 2: ‘ As is well known, curara is of great
‘ value in such experiments, for, by paralysing volun-
‘ tary movement, it prevents the irregular outflow
‘ of the bile, which certainly follows irregular contrac-
‘ tion of the abdominal muscles; and if care be taken
‘ to give doses just sufficient to produce this paralysis,
‘ the biliary secretion is not apparently affected; but if
‘ too much be given, the heart is rendered weak and
‘ irregular, and the secretion of the bile diminished.’

Then I go on to page 3: ‘ It therefore appears that
‘ in the progress of the experiment the composition of
‘ the bile remained almost precisely the same. This is
‘ remarkable, seeing that the animal had been deprived
‘ of water for so long a time’ (there he tortured the
animal, or something like it), ‘ and, moreover, seeing
‘ that the entrance of the bile into the intestine had
‘ been cut off. It should be mentioned that in taking
‘ the bile secreted near the beginning of such experi-
‘ ments for analysis, we were always careful to eliminate

‘ that which had been expressed from the gall-bladder
‘ into the cannula.’

There is additional matter on the same subject in the ‘British Medical Journal,’ October 30th, 1875. I have a pencil memorandum from the gentleman who sent in this. He says: ‘Among the allotments of the ‘Scientific Grants Committee of the British Medical ‘Association is Professor Rutherford’s “Researches on ‘“Biliary Secretion,” 25*l*.’ Then at page 7: ‘Experiment XV., dog weighing 9·5 kilogrammes. In this ‘experiment it was proposed to test the effect of aloes ‘on the liver when well-nigh exhausted. Accordingly, ‘at the sixth hour of an experiment on a dog that had ‘fasted the usual period of eighteen hours, 20 grains ‘extract of Socotrine aloes in 5 c. c. of water were ‘injected into the duodenum (*a*. Fig. 15), and this ‘dose was repeated in half an hour. The secretion of ‘bile was increased, but the effect was not very marked. ‘Nevertheless, the result is noteworthy, seeing that in ‘this case there was a great secretion of bile during the ‘first four hours of the experiment (Fig. 15).’

Then the last experiment which is recorded here—but the Paper does not seem to be finished—is Experiment XVI., on injecting rhubarb.

5566. If there are any further passages in published works to which you wish to refer us, will you, if you please, simply give us the references to them now, and then proceed to say anything that you have to say?—I would refer to the ‘Hand-Book for the Physiological ‘Laboratory,’ edited by Dr. Burdon-Sanderson, 1873, and the pages to which I would call attention are pages 210, 212 (rabbit, &c.); 238 (spinal cord); 245, 308,

403 (dogs and cats recovered from chloroform); 404 (frogs); 409 (frogs); and 417 (pigeons). Then I would refer to 'An Inquiry into the Process of Nature in 'Repairing Injuries of the Intestines, illustrating the 'Treatment of Penetrating Wounds and Strangulated 'Hernia,' by Benjamin Travers, Demonstrator of Anatomy at Guy's Hospital, &c. London, 1812. We put in that book as containing cruel experiments to animals generally. And then 'The Wrongs of the Animal 'World: to which is subjoined the Speech of Lord 'Erskine on the same subject,' by David Mushet, Esq. London, 1839. The pages to which I would refer are pages 191, 228, 229, and 201 and 202. In regard to the fact that these so-called experiments are perpetrated at the present day, and to a very considerable extent, though some people deny it, we wish to refer to what was done at Norwich in the case of that Frenchman, Dr. Magnan. It was done publicly, and there was a prosecution, or rather, an attempted prosecution. He somehow or other managed to escape. There was a miscarriage of justice there, as we should say, and he was not apprehended. I do not mean that it failed through anything wrong in regard to the magistracy, but simply that he was not brought before them. Then I would refer to 'The Physiological Pathology and 'Treatment of Asphyxia,' by James Phillips Kay, M.D., formerly President of the Royal Medical Society, Edinburgh. London: Longman, 1834. That book we put in generally in the same manner. Then the next book is 'Physiological Researches,' by Sir Benjamin C. Brodie, Bart. London: Longman, 1851. We put that in generally. There is something which I should

now like to refer to—the opinion of Alexander Chalmers in regard to the Abbé Spallanzani. I think it is in the ‘Biographical Dictionary.’

5567. You must not rely on our having printed in the Blue Book everything which you have read to us or to which you have referred us in published books; the Commissioners will exercise their discretion with regard to that.* I will now ask you, have you said all that you wish to say to the Commission?

5568. What is the nature of that which you have further to address to it?—It is to show the cruelty and inutility of these practices.

5569. You have put in the references to the various books that you wish us to consider?—As I have gone on I have done so.

5570. You have exhausted that portion of the subject?—I do not know that I have quite.

5571. Do you know that you have not?—I could not answer decidedly at the present moment; I should like to refer.

5572. Then you mean that you are not able in the course of this present examination to conclude your evidence in that respect?—I think not quite.

5573. Have you any observations that you are desirous of offering before to-day’s examination closes?—No; I would reserve them till another day; I am tired now; my health is not strong, and I am not accustomed to read like this.

5574. At any rate, to-day you are not prepared to

* This utterance, of Lord Cardwell, appears to indicate an intention to suppress evidence.—G. R. J.

address any further observations to the Commission?—
If it was a matter of necessity, now or never, I should endeavour to do something.

5575. Then we will ask you to proceed now.—
Could you not take me on Monday? I make that request.

5576. The arrangements of the Commission do not enable us to meet on Monday, or on any future day?*

5577. If you have any observations that you wish to address to us now, we wish you to proceed with them?—I have given my reasons for not doing so. I could hardly do justice, I think, to the Society and my clients if I went on now.

(The Witness withdrew.)

Adjourned.

* The Public will judge whether, or not, this and the immediately foregoing statements and questions of the Chairman were calculated to bring the evidence to a premature conclusion.—G. R. J.

THIRD DAY'S EVIDENCE.

DECEMBER 20, 1875.

Present :—

The Right Hon. VISCOUNT CARDWELL *in the Chair.*

The Right Hon. W. E. FORSTER, M.P.

Sir J. B. KARSLAKE, M.P.

THOMAS HENRY HUXLEY, Esq.

JOHN ERIC ERICHSEN, Esq.

RICHARD HOLT HUTTON, Esq.

N. BAKER, Esq., *Secretary.*

Mr. GEORGE RICHARD JESSE *recalled, and
further examined.*

6418. The *Chairman*: When your last examination closed, we understood that you wished to say something more?—Yes.

6419. Will you be so good as to tell us what it is?—The Society for the Abolition of Vivisection wishes to observe that evidence, such as it has been giving to Her Majesty's Commissioners—of the torture of animals for so-termed scientific objects, the corrupting moral influence generated by these practices, and the errors and fallacies spread abroad by them—it can continue to give, if Her Majesty's Royal Commission is not satisfied that from the mouths of Vivisectors the Society has proved them to be all that it has asserted of them in the opening statement which it made before this Commission. The Society wishes respectfully to inquire of

Her Majesty's Commissioners if they are convinced on these points, and if not, what further evidence they require?

6420. The Commission have given you the opportunity which we understood you to ask for,* to give further evidence before us, and we are now assembled for the purpose of hearing you?—Very good. Then we wish to tender in further evidence the opinion of the late Sir Charles Bell, the eminent surgeon, who has said: '*Anatomy is already looked on with prejudice; let not its professors unnecessarily incur the censures of the humane. Experiments (vivisections) have never been the means of discovery, and the survey of what has been attempted of late years will prove that the opening of living animals has done more to perpetuate error than to enforce the just views taken from anatomy and the natural motions.*' Again, Sir Charles observes: '*In a foreign review of my former papers the results have been considered in favour of experiments (on living animals). They are, on the contrary, deductions from anatomy, and I have had recourse to experiments not to form my opinions, but to impress them on others. It must be my apology that my utmost powers of persuasion were lost, whilst I urged my statements on the ground of observation alone.*'

I will now quote from: '*The Life and Labours of Sir Charles Bell,*' by Amédée Pichot, M.D., London: Richard Bentley, New Burlington Street. Publisher in Ordinary to Her Majesty. 1860. At page 68, speaking

* The Witness never asked to be examined. He appeared by the invitation of the Commission.—G. R. J.

of one of his ideas, he says: 'He thought more of it
' for his own gratification than for the benefit of others,
' and at last brought himself to a conviction that the
' pursuit of his discovery was the egotistical gratifica-
' tion of a scientific vanity. In this point of view he
' looked upon it as an act of barbarism to sacrifice
' living animals to his fruitless experiments. "I should
' "be writing," he said to his brother, "but I cannot
' "proceed without making some experiments which
' "are so unpleasant to make that I defer them.
' "You will think me silly, but I cannot perfectly con-
' "vince myself that I am authorised in nature or in re-
' "ligion to do these cruelties. For what? For a little
' "egotism or self-aggrandisement. And yet what are
' "my experiments in comparison with those which
' "are daily done for nothing?" This sensibility made
' Sir Astley Cooper smile, for to his human autopsies
' he added hecatombs of animals. Fortunately, too, it
' did not prevent Charles Bell from becoming a brilliant
' operator. His "System of Operative Surgery" (a
' work published in 1807, which has gone through
' three editions), contained no description of an opera-
' tion he had not himself performed: from "bleeding
' "in the arm, to lithotomy with the knife alone; from
' "tying the umbilical cord, to the Cæsarian section."'
So, that in his case, one of the most brilliant operators,
vivisection was not necessary.

At page 127 I find this: 'In his study of the system
' of circulation, as in that of the nerves, Charles Bell
' was necessarily compelled to make more than one
' experiment in comparative anatomy, but he abstained
' as much as possible from torturing animals, which

‘ he considered, in most cases, a useless act of cruelty, ‘ less certain in result than was commonly supposed, ‘ and less profitable than an attentive study of patho- ‘ logical phenomena; because vivisection not only ‘ alters the substance of the mutilated organs, but ‘ disturbs, more or less profoundly, the natural con- ‘ dition of life, and excites, through pain, irregular ‘ motions differing from those expected or previously ‘ observed, &c. He admits that such is not the opinion ‘ of some of the best and most virtuous men he has ‘ ever known, but that, for his own part, *he never ‘ could convince himself either by the experiments he ‘ witnessed, or by any of those related to him.*’

At page 140 I find this: ‘The function of the cere- ‘ bellum is demonstrated as regards animals, but man ‘ has not been subjected to these experiments like ‘ rabbits and pigeons. Pathology alone could not tell ‘ us whether there is a perfect identity here between ‘ the human and animal creation.’ At page 118 it says, speaking of an experiment which he wished to perform, that ‘ he never could be induced to make the ‘ first experiment on a human subject,’ though he tried it on a monkey. Our object in reading those two passages is to show the tendencies on the part of these men not to stop with the *animals* in their experiments.

(The Witness was directed to withdraw. After a short time he was again called in.)

6421. *The Chairman:* The Commission wish me to suggest to you that the opinions of this writer upon Sir Charles Bell and his conduct—— Excuse me for

interrupting you, but I am not reading the opinions of Pichot, but those of Sir Charles Bell himself.

6422. Will you allow me to say, first, what the Commission wish me to say, which is that their opinion is that the views of this writer upon Sir Charles Bell are not evidence which is likely to assist them in forming their judgment?—I thought I had confined myself to what he quoted from Sir Charles Bell's writings; but, at all events, in future I will take care, as far as I can, in reading from the book to confine myself to Bell's statements.

6423. You will allow me to say that this is the third occasion on which we have had the pleasure of seeing you, and we are desirous now to bring your evidence within proper and practicable limits?—Of course. I have no wish to the contrary. I am not here from pleasure. Then at page 202 I read this: “Pain,” ‘remarks Sir Charles Bell in his “Anatomy and Philosophy of Expression,” “is affirmed to be an un-
“mitigated evil; yet pain is necessary to our existence.
“At birth it rouses the dormant faculties and gives us
“consciousness. To imagine the absence of pain is
“not only to imagine a new state of being, but a
“change in the earth and all upon it. As inhabitants
“of earth, and as a consequence of the great law of
“gravitation, the human body must have weight. It
“must have bones as columns of support, and levers
“for the action of the muscles, and this mechanical
“structure implies a complication and delicacy of
“texture beyond our conception. For that fine texture a sensibility to pain is destined to be the
“protection; it is the safeguard of the body; it makes

“us alive to those injuries which would otherwise ‘destroy us, and arms us to avoid them.’” We give that evidence from Sir Charles Bell, because it is stated that many of these experiments are made with a view to the alleviation of pain. Some people seem to think, that pain may be in time entirely abolished!

At page 198 there is this quotation from Sir Charles Bell: ‘Whoever has sat on a sunny stone in the midst of a stream, and played with the osier twigs and running waters, must, if he have a soul, remember the day, should he live a hundred years; and to return to such a spot after twenty years of a struggling life in the great world of man’s invention,—to come back thus to Nature in her simple guise; again to look up to the same dark hill; again to the same trees, still in their youth and freshness; the same clear running waters: if he can do this, and think himself better than a cork floating on the stream, he has more conceit than I.’ The book proceeds: ‘The great Newton, a short time before his death, uttered this memorable sentiment: “I do not know what I may appear to the world, but to myself I seem to have been only like a boy playing on the seashore, and diverting myself in now and then finding a smoother pebble or prettier shell than ordinary, whilst the great Ocean of Truth lay all undiscovered before me.”’ Men are very apt to exaggerate the value of these ‘discoveries,’ as they call them. We think it is well to show what a really great mind thought of *his* discoveries, which *were* of vast importance to mankind.

6424. You must allow me to suggest to you that we

have many of us heard that passage from Sir Isaac Newton before?—I have no doubt of it.

6425. And that what we want is evidence which has some reference to the question of trying experiments upon living animals—into which, alone, the Crown has commissioned us to inquire—and the evidence which you have given us in the two last passages appeared to me not to have the smallest bearing whatever upon the subject referred to us by the Crown?—I am sorry, my Lord, you should think so. To us they seem very cogent, and to the point, for the reason which I have just stated.*

I have given the opinion of a very eminent modern surgeon. I will now give the opinion of a Roman surgeon, as corroborating Sir Charles Bell. I have here a Translation of the eight books of Celsus on 'Medicine.' Second Edition. By G. F. Collier, M.D. London: Simpkin and Marshall. 1831. At page 7, I find this: 'But now remains to be examined the cruelty ' of opening the abdomen and præcordia of the living, ' and of thus converting an art intended for the pre- ' servation of mankind to an instrument of destruction ' the most atrocious; especially, since so far from such ' violent barbarity being requisite in the research of ' these matters, some are altogether out of the reach of ' our knowledge, and others can be learned without ' inhumanity. For, that colour, smoothness, softness, ' hardness, and the like, are not in a wounded body

* Newton's mighty intellect and profound religious feeling regarded cruelty to animals as a violation of Christian Morality. Not even to discover the Law of Light, or any Law, would Newton have dissected a Living Dog.—G. R. J.

‘ what they were before that body was wounded ; since
‘ in bodies which have received no wound, fear, pain,
‘ hunger, indigestion, fatigue, and many other incon-
‘ siderable affections, often effect changes ; much more
‘ probable is it that interior and much more tender
‘ parts, to which even light itself is new, should undergo
‘ changes under wounds the most severe, even under
‘ butchery itself. They think it the last piece of folly
‘ to expect that the parts of a dying or dead man
‘ should present the appearances of living organs ; for
‘ the abdomen, which is of minor importance, may
‘ be opened while the man is yet breathing, but as soon
‘ as the knife reaches the præcordia, and the transverse
‘ membranous partition separating the upper parts from
‘ the lower, and denominated by the Greeks *διάφραγμα*
‘ (diaphragma), is divided, death takes place imme-
‘ diately ; so, in fine, it is not until the sufferer is no
‘ more, that the præcordia and all the viscera are pre-
‘ sented to the view of the assassin-like physician ; and
‘ these, too, impressed with the characters of death, not
‘ with those of life. Therefore, the physician has gained
‘ no knowledge of the nature of the viscera of the living
‘ body, but the privilege of cruelly butchering a fellow-
‘ creature. Again, admitting in such dissections one
‘ can observe anything useful while as yet the man
‘ breathes, it amounts to no more than what casualties
‘ throw in our way in practice. For, that sometimes
‘ the gladiator on the stage, or the soldier in battle, or
‘ the traveller encountered by robbers, is so wounded
‘ that some internal part may be exposed, and so again
‘ different parts in other cases ; thus the prudent phy-
‘ sician informs himself of their situation, position,

‘ arrangement, figure, with other particulars relating to
‘ them, and, prompted by compassion, learns that which
‘ the others cannot have discovered but by cruelty the
‘ most appalling.’

6426. Do you quote that as showing anything bearing upon the subject to which our inquiry has reference?—I am surprised, my Lord, (I say it with all courtesy,) that you should ask me such a question. I am reading, as I said, the opinion of a Roman medical man on the subject of vivisection.

6427. You think it calculated to assist us in coming to a conclusion?—I should think so, most decidedly. Most emphatically do I say so. It ought to do so. That he was no ordinary man this is a proof: here is a translation of his book, by an English physician, made only a few years ago. At page 13 I find this: ‘To
‘ return to the main point. I am of opinion that
‘ medicine ought to admit theory; but its curative in-
‘ dications should be based on the evident causes of
‘ disease; all obscure causes being banished, not from
‘ the thoughts of the artist, but from the art itself.
‘ To open the bodies of the living is, moreover, cruel and
‘ useless; but those who devote themselves to medicine
‘ cannot dispense with the dissection of the dead, for
‘ they ought to know the position and the arrangement
‘ of the parts, which the dead subject shows to us better
‘ than the living and wounded one; and as to certain
‘ other facts only to be learned in the living, these the
‘ treatment of wounds will teach, somewhat more
‘ tardily indeed, but in a manner more conformable
‘ to humanity.’ I propose now to quote from the
‘ Sporting Magazine,’ January, 1825.

6428. What do you propose to read us the 'Sporting Magazine' for?—To show the opinion of a very skilful man, a veterinary surgeon, in regard to vivisection.

6429. In the year 1825?—That is the date of this volume; perhaps not of the particular number of the 'Sporting Magazine.'

(The Witness was directed to withdraw. After a short time he was again called in.)

6430. *The Chairman*: The Commission wish you to confine yourself to evidence directly calculated to assist them in coming to a conclusion upon the point referred to them, and they wish me to repeat to you their opinion that some of the passages which you have recently quoted are not of that character.—Well, I am at a loss what to do, because the evidence that our Society wishes to tender to the Royal Commission, through me, the Commission thinks it not to the purpose.

6431. The Commission think that some of that which you have tendered is not at all calculated to assist them in coming to a conclusion. They wish you in your future evidence to furnish them with that which may render them some assistance.—That is what I have been trying to do all along; it appears that I have not succeeded. I thought that the opinion of this man, this veterinary surgeon, a man of considerable eminence, had, at all events, a value as his opinion.

6432. What we understand you to tender to us is an opinion?—I hope that you will not think the worse of it because it is in the 'Sporting Magazine;' it is anything but trifling.

6433. What we understand you to tender to us is an opinion expressed in the 'Sporting Magazine,' in 1825, that is to say, more than twenty years before the discovery of anæsthetics, upon the subject of the Bill brought in by Mr. Martin?—Yes.

6434. We do not think that that is calculated to assist us in the inquiry which we are prosecuting.—I am sorry to hear it, because we thought we had convinced the Commission by this time that as to so-called experimenting on animals under anæsthetics, it was in a great majority of cases a mere delusion and a snare in regard to the public. Among those that I mentioned, I gave a very recent instance in which Professor Ferrier was concerned, and you saw what that amounted to; the animals uttering shrieks, and gnawing their own legs, and giving excessive manifestations of agony; and yet one gentleman says they felt no more than a pianoforte! We will leave the public to judge of that with the common sense of the English Nation.

6435. We should be obliged if you will have the kindness in your future evidence to give us what is directly to the point.—I must hold my ground as to that. I believe that is what I have been doing. We differ, unfortunately, in opinion. It is not my wish to come here except for the purpose of transacting this very painful business, and not one word should I say, except what I think is tending to that end. Then am I to understand that you decline to receive this?

6436. We do.—Very good. The next book I will refer to is 'Memoirs of John Abernethy, with a View of

‘ his Lectures, &c.’ by George Macilwain, Fellow of the Royal College of Surgeons. Third Edition. London: Hatchard and Company, Piccadilly. 1856. These are the words of Abernethy himself at page 212: ‘ Mr. Hunter, whom I should not have believed to be very scrupulous about inflicting sufferings upon animals, nevertheless censures Spalanzani for the unmeaning repetition of similar experiments. Having resolved publicly to express my own opinion with respect to this subject, I choose the present opportunity to do it, because I believe Spalanzani to have been one of those who have tortured and destroyed animals in vain. I do not perceive that in the two principal subjects which he sought to elucidate, he has added any important fact to our stock of knowledge; besides, some of his experiments are of a nature that a good man would have blushed to think of, and a wise man ashamed to publish, for they prove no fact requiring to be proved, and only show that the aforesaid Abbé was a filthy-minded fellow.’

At page 99 of the same book I find this: ‘ In the foregoing experiments the reader will have observed the significant words, “ having killed a frog,” Abernethy not approving of experiments on living animals. When we reflect for a moment on the thousands of dreadful experiments which have been made on living animals, and the utter inconclusiveness of them for any useful purpose, there are, amongst the numerous errors by which so many philosophical inquiries have been delayed or defeated, few that are more lamentable. This mode of investigation has not, so far as we can see, produced any *one useful discovery*, whilst

‘ it has tended to obscure, by all that is disgusting and
‘ repulsive, the true mode of cultivating a most alluring
‘ science.’

6437. Is that last passage Mr. Macilwain’s opinion, or Mr. Abernethy’s?—The former quotation that I read from the book is in Abernethy’s own words. This, is partly from Abernethy and partly from himself, Mr. Macilwain; most of it from Macilwain.

6438. We have had Mr. Macilwain as a witness here before us, therefore it is not necessary for you to read his sentiments to us from a book.—I do not know, my Lord; you may not have exhausted the subject through Mr. Macilwain. I understood him to say that you did not. At page 101 I read this: ‘ As we have already ‘ observed, we think it demonstrable’——

6439. Whose sentiments are these that you are reading now?—I do not see any inverted commas; therefore, if they are not wanting through error, it would be Mr. Macilwain’s.

6440. Then we will dispense with them, if you please?—Just as you please. Of course, my Lord, you have the power to receive or reject what you like, I suppose. And that, I suppose, applies to any other passages giving Mr. Macilwain’s opinion?

6441. Yes.—Very good. I will now give the opinion of a man of the very first eminence, and who is still with us—Sir William Fergusson.

6442. We have had Sir William Fergusson’s evidence; we have already heard his opinion, and we do not wish to hear it, therefore, through you.—It is not through me. This is evidence which he gave in a Court of Justice, on oath.

6443. We do not wish to receive it.—Very good. He says that he performed experiments once, himself, and that he now regrets it.*

When I had the honour of attending here on a previous occasion, I asked if the Royal Commission could supply the Society for the Abolition of Vivisection, (of course, it is the object of the Commission to give all information possible on this subject throughout the kingdom,) with the Croonian Lecture, delivered by Professor Ferrier, to the Royal Society. As I have stated, there is an abstract published of it by the publishers of the Royal Society, but we made application for the lecture itself, which the Society thinks it highly desirable to have.

6444. You have not obtained it?—No; I applied to you for it, but I have not received it.

6444*a*. We have not undertaken to furnish you with information; we are looking to you for information.—That lecture would put me in the way of giving it to you.

6445. Will you proceed with anything which you wish to say to us?—Certainly. Then you will not supply us with that?

6446. We are not possessed of it.—But you have the power to call for Books and Records to be furnished to the Commission, and I thought that you might supply us with it.

6447. We cannot undertake to supply the Society with information; we are looking to you for information.—I imagined you had the power granted to you

* See Report of his Evidence in the Norwich Prosecution, Dec. 9, 1874. Hardwicke. 192, Piccadilly, London. 1875.

by Her Majesty to call for that very thing; and then, if you did, it would place it in our power to tender it as evidence.

6448. *Mr. Huxley*: Has the Society applied to Messrs. Taylor and Francis, the publishers to the Royal Society?—Yes.

6449. Did they refuse to sell a copy of their Proceedings containing that lecture?—I never said it was in the Proceedings. I said there was an abstract of it. The abstract we have; but what I applied for before, was the lecture itself, and not the abstract.

6450. Has the lecture ever been printed?—I do not know; not that I have heard of.

6451. Have you inquired of the Royal Society?—Of their publishers we have.

6452. Have you inquired at the office of the Royal Society itself?—No; I thought it would be out of the course of business; that they would consider it an intrusion on our part to ask it, and that the publishers would be the proper persons to apply to. If we could get it by applying there, we would apply very soon. I suppose you have no intention to convey that it is a fact that we could have it by application?

6453. I have no intention to convey any impression whatever. I have asked you a question, and I now have your answer.*—Very good; that is very clear then.

* The Society for the Abolition of Vivisection, after this, made application for the Lecture, at the Royal Society's Office at Burlington House; but without success.

Does all this, on the part of Lord Cardwell and Professor Huxley, resemble the conduct of Counsel eager to take every advantage for their clients on a trial;—or, the dignity of Judges appointed to elicit Truth,—administer Justice,—and protect the Oppressed?

I will now quote from the 'Edinburgh Medical and Surgical Journal,' vol. lxiii., Article 1. 'An Experimental Inquiry into the Pathology and Treatment of Asphyxia. By John E. Erichsen, Lecturer on General Anatomy and Physiology at the Westminster Hospital, London.' You smile, my Lord,* but I am not aware of anything in that title which should call forth smiles. At pages 16 and 17, I find this :

6454. *Mr. Erichsen*: Will you give the date of that, please?—January, 1845.

6455. Thirty years ago!—It is none the less true for that, I suppose?

6456. No; but I have a special reason for mentioning it.—'Experiment IX. Three mongrel terriers, A, B, and C, were properly secured in such a way that their heads might be brought into close apposition. A tube, furnished with a stop-cock, was then introduced into the proximal end of the left carotid artery of A, and another into that of the right carotid artery of C. These vessels had previously been ligatured beyond the point at which the pipes were introduced, so that no hemorrhage might occur. The force of the heart's impulse in the lateral dogs A and C was now measured by the hæmadynamometer'——

6457. *The Chairman*: I think you are repeating what you read to us on a former occasion, are you not?—Not knowingly, certainly. In fact, I am certain that I did not read it before. What I was reading on the

* Lord Cardwell seemed to exchange looks of significance with his colleague.

last occasion was the work of Dr. John Reid, in which he referred to Mr. Erichsen.

6458. But are you going to read to us over again the same thing?—No, I am not: I am too good a man of business, I hope, to do that. The passage proceeds: ‘and found to amount to from $4\frac{1}{2}$ to 5 inches in each of them. A tube furnished with a stop-cock was next adapted to the trachea of the centre dog B, and a pipe was introduced into the distal extremities of both its carotid arteries, which were tied below the point at which the pipes were inserted. The animal did not appear in the least to suffer from the ligature of both these arteries. One of the jugular veins of the centre dog was then exposed, and a ligature was passed under it in order that it might be punctured, so as to avoid the occurrence of plethora and apoplexy when the carotid arteries of the two lateral dogs were connected with the corresponding vessels of the central one. The pipes in the carotid artery of A and C were then adapted, by means of connecting-pieces, to those in the central dog, and were, besides, tightly tied together, so that they could not slip during the struggles of the animal. When this arrangement had been properly and securely made, the trachea of the centre dog was closed, the jugular vein was punctured, and the stop-cocks connecting its carotid arteries with those of the lateral dogs were opened. As soon as this had been done, the vertebrae of the dog B (the centre one) were compressed with the fingers of an assistant, in order that the circulation through the brain might be confined, as nearly as possible, to arterial blood. The centre dog remained quiet for about a minute and a

‘quarter; it then began to struggle, and in three
‘minutes all movement had ceased, and animal life was
‘extinct. The distal extremities of the carotid arteries
‘of the centre dog were then examined, as they had
‘been several times during the experiment, and were
‘found still to pulsate, although somewhat feebly, from
‘the impulse of the blood sent direct from the hearts of
‘the lateral dogs. Nearly a pint of blood had flowed
‘from the jugular vein during the experiment, so that
‘the animal had clearly not died from plethora. The
‘lateral dogs were both alive, but evidently enfeebled
‘by loss of blood; and on the pressure in the carotid
‘artery of one of them being measured by the hæmady-
‘namometer, it was found to amount to not more than
‘3 or $3\frac{1}{4}$ inches of mercury. The centre dog was opened
‘about ten minutes after its death, by which time the
‘action of the heart had entirely ceased.’ I would go
on with more of these “experiments,” but I think one is
perhaps sufficient; but I wish it to go down in evidence
that others are detailed in the same Journal.

6459. *Mr. Erichsen*: Those experiments were made
by me, in conjunction partly with Dr. Sharpey, from a
grant. We were appointed by the British Association
for the Advancement of Science to inquire into the
subject of asphyxia. A grant of money was given by
that Association for that purpose. Those experiments
were made for the Association and reported to the Asso-
ciation, and they were considered of sufficient import-
ance by the Royal Humane Society for them to award
to me the Fothergillian Gold Medal the only time when
it was awarded, except in one instance, and that was
to the present Sir James Kay Shuttleworth for other

experiments on the subject. Are you aware of those facts?—No; I was not aware of all of them. I think I was aware of one; but I cannot be sure till I look further at this one, which I referred to just now. I see that this is a Report laid before the British Association; that is all that I know in regard to what you have just stated. But what you have just stated does not alter the views of our Society about these experiments at all; it is only an additional proof of them. I think they are “experiments” from which conclusions were drawn, which Dr. Reid afterwards, from his “experiments,” differed from.* I think it will be found, in my previous evidence, that they led to inaccurate results.

Bayle; ‘Dictionnaire Historique et Critique de Pierre Bayle.’ Paris, 1820; 12th volume, article ‘Rorarius,’ page 593, Note C. I do not wish to appear to try to get in evidence of the nature which the Commission has declined to receive. The Chairman knows ‘Bayle’s Dictionary’ very well, no doubt. I am not aware if Bayle was a vivisector; but he has been quoted by Lecky, on the subject of vivisection, in his ‘History of European Morals.’

6460. *The Chairman*: You can put in the reference, cannot you?—Yes, I can do so; but we prefer reading the passage: it is very short.

6460a. Will you put in the reference, if you please?

* See p. 67. According to Dr. John Reid, Mr. Erichsen’s view appears *incompatible with facts*. This is a striking instance of the blunders of Vivisectors. Mr. Erichsen obtains a *Gold Medal* for publishing what, to another Vivisector, appeared an *erroneous theory*! Has Mr. Erichsen returned this “Fothergillian Gold Medal?”

—As I have stated, it is at page 593, Note C, article ‘Rorarius.’*

The next book to which I will refer is the ‘Handbook of Physiology,’ by William Senhouse Kirkes, M.D., edited by W. Marrant Baker, F.R.C.S., Lecturer on Physiology, and Assistant-Surgeon to St. Bartholomew’s Hospital; Surgeon to the Evelina Hospital for Sick Children. Eighth Edition. London: John Murray, Albemarle Street, 1872. We produce this work in evidence as a Handbook placed in the hands of young men, and to show what teaching they receive—teaching, which, in the opinion of our Society, tends to demoralise their minds and to render them inhuman. At page 182 I find this: ‘Some experiments performed by Dr. Kellie appeared to establish the correctness of this view; but Dr. Burrows having repeated these experiments, and performed additional ones, obtained different results. He found that in animals bled to death, without any aperture being made in the cranium, the brain became pale and anæmic, like other parts. And in proof that, during life, the cerebral circulation is influenced by the same general circumstances that influence the circulation elsewhere, he found congestion of the cerebral vessels in rabbits killed by strangling or drowning; while in others, killed by prussic acid, he observed that the quantity of blood in the cavity of the cranium was determined by the position in which the animal was placed after death, the cerebral vessels being congested when the animal was suspended with

* “De quelle manière traitons-nous les Bêtes?”—“Nous fouillons dans leur entrailles pendant leur vie, afin de satisfaire notre curiosité.”

‘its head downwards, and comparatively empty when ‘the animal was kept suspended by the ears.’ We think that a book of this kind is calculated to make these young men try these so-called experiments in their lodgings and elsewhere. I fancy it is pretty well known what they do to a certain extent in that way.

6461. Before you go any further, will you allow me to ask you how many pages there are of the book altogether?—There are 835 pages.

6462. You do not propose to read any large part of them, do you?—No; they are short passages that I propose to read.

6463. In your opinion, have they any special appropriateness to this inquiry?—Yes, decidedly.

6464. You have already referred to the whole book as objectionable in your view?—When you say the whole book, there may be parts of the book which are exceedingly proper. If it tells you how to set the broken leg of a man, for instance, I should consider that quite the right thing.

6465. But I understood you to say, a little while ago, that you referred to the whole book?—I do, as far as it is imbued with that principle. I am not going to condemn every page in the book. The next passage I will read is at page 206: ‘The great force of the inspiratory efforts during apnœa was well shown in ‘some of the experiments performed by the Medico-Chirurgical Society’s Committee on Suspended Animation. On inserting a glass tube into the trachea ‘of a dog, and immersing the other end of the tube in ‘a vessel of mercury, the respiratory efforts during ‘apnœa were so great as to draw the mercury four

‘ inches up the tube. The influence of the same force
‘ was shown in other experiments, in which the heads of
‘ animals were immersed both in mercury and in liquid
‘ plaster of Paris. In both cases the material was found
‘ after death to have been drawn up into all the bron-
‘ chial tubes, filling the tissue of the lungs.’ Then at
page 229 I find this: ‘ In some experiments per-
‘ formed by a Committee appointed by the Medico-
‘ Chirurgical Society to investigate the subject of
‘ Suspended Animation, it was found that, in the dog,
‘ during simple apnœa, *i.e.*, simple privation of air, as
‘ by plugging the trachea, the average duration of the
‘ respiratory movements after the animal had been
‘ deprived of air, was four minutes, five seconds; the
‘ extremes being three minutes, thirty seconds, and four
‘ minutes, forty seconds. The average duration of the
‘ heart’s action, on the other hand, was seven minutes,
‘ eleven seconds; the extremes being six minutes, forty
‘ seconds, and seven minutes, forty-five seconds. It
‘ would seem, therefore, that, on an average, the heart’s
‘ action continues for three ‘minutes, fifteen seconds
‘ after the animal has ceased to make respiratory
‘ efforts. A very similar relation was observed in the
‘ rabbit. Recovery never took place after the heart’s
‘ action had ceased.’ Then, lower down on the same
page it says: ‘ In proof of the correctness of this
‘ explanation, it was found that when two dogs of the
‘ same size—one, however, having his windpipe plugged,
‘ the other not—were submerged at the same moment,
‘ and taken out after being under water for two minutes,
‘ the former recovered on removal of the plug, and the
‘ latter did not.’

6466. You quote these as instances of experiments, described in that book, which you consider to be very cruel experiments, do you not?—I do consider them very cruel.

6467. I mean, that is the purpose of your quoting them?—That is partly the purpose, and also what I before stated, to show how the young are being educated.

6468. But are those examples fair samples of what you wish us to gather from that book?—What do you mean by 'fair samples?'

6469. What I mean is, do they sufficiently indicate the sort of conclusion which you wish us to draw from the contents of that book?—I do not exactly see what you are leading up to.

6470. What I am pointing at is this: I want to know why we should have any more examples read to us, when the whole book has been already put in by you as evidence?—But I do not put in the whole book in that way; I say it is imbued with that, but I do not say that every page contains cruelties.

6471. But do you mean to read to us every page that does?—No, I do not; I have taken a selection.

6472. Will you be so good as to be limited in your selection?—I am so.

6473. We think that you had rather forgotten that our time, and your time, and all time is limited.—You do me an injustice in that. I do not know as to all time being limited, that remains to be proved, but as to my time, I am quite aware of that.

Then at page 244 I find this: 'Walther found that 'rabbits and dogs when tied to a board, and exposed to 'a hot sun, reached a temperature of 114·8° Fahr.

‘and then died. Cases of sunstroke furnish us with similar examples in the case of man; for it would seem that here death ensues chiefly or solely from elevation of the temperature.’ A little lower down on the same page I read this: ‘From experiments by Walther, it appears that rabbits can be cooled down to 48° Fahr. before they die, if artificial respiration be kept up. Cooled down to 64° Fahr. they cannot recover unless external warmth be applied, together with the employment of artificial respiration. Rabbits not cooled below 77° Fahr. recover by external warmth alone.’ Then come some experiments extracted from Magendie, Tiedemann, and Gmelin—experiments on dogs—but I do not think it is necessary to read them. We have abstained as much as possible from going upon the Continent, we have got enough at home. I should like a note, however, taken that they are in the book. Then at page 250 I find this: ‘One of the most notable effects of starvation, as might be expected, is loss of weight; the loss being greatest at first, as a rule, but afterwards not varying very much, day by day, until death ensues. Chossat found that the ultimate proportional loss was, in different animals experimented on, almost exactly the same; death occurring when the body had lost two-fifths (40 per cent.) of its original weight.’ At page 251: ‘The effect of starvation on the temperature of the various animals experimented on by Chossat was very marked.’ Then at page 295, under the heading ‘Digestion of the stomach after death,’ I find this passage: ‘This phenomenon is not unfrequently observed in post-mortem examinations of the human body, but, as Dr. Pavy

' observes, the effect may be rendered, by experiment
' more strikingly manifest. "If, for instance," he
' remarks, "an animal, as a rabbit, be killed at a period
' " of digestion, and afterwards exposed to artificial
' " warmth to prevent its temperature from falling, not
' " only the stomach, but many of the surrounding
' " parts will be found to have been dissolved," ' and
' so on. Lower down on the same page I read: ' It is
' only necessary to refer to the idea of Bernard, that
' the living stomach finds protection from its secretion
' in the presence of epithelium and mucus, which are
' constantly renewed in the same degree that they are
' constantly dissolved, in order to remark that this
' theory has been disproved by experiments of Pavy's,
' in which the mucus membrane of the stomachs of
' dogs was dissected off for a small space, and, on
' killing the animals some days afterwards, no sign of
' digestion of the stomach was visible.' So, there
is the Vivisector of Paris, at least one of them, dis-
proved here by the Vivisector in London, according to
this book. No man can go through the works of these
Vivisectionists without being very frequently struck
with the simple fact that one man lays down a theory,
and a succeeding man overthrows it. And I would
take this opportunity respectfully to suggest on the
part of the Society which I represent, that Her
Majesty's Commission might do well to call forward
some of these Vivisectionists, and ask them what it is
they have discovered. Let them define it, and then
call forward other Vivisectionists and competent pro-
fessional men, and take their opinion whether they
have discovered anything or not.

Then at page 297 I find this: 'Dr. Pavy's theory is ' the best and most ingenious hitherto framed in connection with this subject; but the experiments adduced ' in its favour are open to many objections, and afford ' only a negative support to the conclusions they are ' intended to prove. The matter, therefore, can scarcely ' be considered finally settled.' On page 386 I read this: 'The same fact was illustrated by some experiments of Dr. Baly, in which, having, in salamanders, ' cut off the end of the tail, and then thrust a thin wire ' some distance up the spinal canal so as to destroy the ' cord, he found that the end of the tail was reproduced ' more slowly than in other salamanders in whom the ' spinal cord was left uninjured above the point at which ' the tail was amputated.' At page 559 there is this passage: 'The most probable account' (so I suppose there are others which are probable, but this is 'the ' most probable') 'of the particular functions which ' the branches of the pneumo-gastric nerve discharge in ' the several parts to which they are distributed, may ' be drawn from Dr. John Reid's experiments on dogs. ' They show,' and so on. I do not know whether that refers to the experiments that Mr. Erichsen mentioned.

At page 525 I find this: 'The physiology of the ' cerebellum may be considered in its relation to sensation, voluntary motion, and the instincts or higher ' faculties of the mind. It is itself insensible to irritation, and may be all cut away without eliciting signs ' of pain (Longet). Yet if any of its crura be touched, ' pain is indicated; and if the restiform tracts of the ' medulla oblongata be irritated, the most acute suffering appears to be produced. Its removal or dis-

‘organisation by disease is also generally unaccompanied with loss or disorder of sensibility. Animals from which it is removed can smell, see, hear, and feel pain, to all appearance, as perfectly as before (Flourens; Magendie). So that, although the restiform tracts of the medulla oblongata, which themselves appear so sensitive, enter the cerebellum, it cannot be regarded as a principal organ of sensibility.’

At page 335 I read: ‘Instead of adopting Bernard’s view, that normally, during life, glycogen passes as sugar into the hepatic venous blood, and thereby is conveyed to the lungs to be further disposed of, Pavy inclines to believe that it may represent an intermediate stage in the formation of fat from materials absorbed from the alimentary canal.’

As I have already said to day, if we have not succeeded in convincing the minds of the Commission in regard to our opening statement being correct, we are prepared to go on with further documentary evidence; but if we have been fortunate enough to do so, of course we need go no further. I have given to-day the opinion of Sir Charles Bell, and I think nothing could be in stronger words, and nothing could come from a man of greater eminence.

6474. I am afraid you misunderstand our relative position in this particular, that we came here to ask you questions and not to answer questions put by you?—I am aware of that; I stated so on a previous occasion.

6475. Now if you will proceed to finish what you have got to say, we are quite ready to hear you?—You do not say whether you are convinced or not, but in the opinion of the Society we have most fully and

amply established the position which we took up; and if we have not produced conviction by the evidence which we have tendered from the works of vivisectors themselves, and other competent men—professional men and others—we think that no amount of evidence could do it, and therefore, of course, it would be unnecessary to proceed. I will therefore, if you will allow me, conclude the evidence which I have tendered to Her Majesty's Commission, with some remarks from the Society itself, which is for the abolition of the very practices upon which Her Majesty's Commission is sitting to inquire. The mere reading of these cruelties creates disquietude and distress of mind, indignation, abhorrence, and in some persons even illness of body. Thousands of letters have been received by the Society for the Abolition of Vivisection from people of education testifying the above. The feeling is not confined to the upper and middle classes of this Nation. The Society for the Abolition of Vivisection would, had it been allowed by the Royal Commission to do so, have read some of these letters in evidence; such strong opinion and vehement feeling could hardly have been evoked without a strong exciting cause, and as an illustrious French writer, a man of science, says: 'The heart has its arguments as well as the understanding.' It is the Voice of Nature which exclaims against these inhuman, these unnatural, these, in some cases, bestial tyrannies, perpetrated by man on his helpless and unoffending fellow-creatures. Can deeds be right which call forth such intense feeling against them from men and women of sense and respectability? Even if any discoveries in knowledge had been extorted and wrung

out by torture from these unhappy and innocent victims, (and this is denied by competent authorities like Sir Charles Bell and several others,) such discoveries are gained by injustice, and being so, will ultimately prove profitless, and worse than profitless, to the human race. Dishonesty takes the short cut to everything. It seems easier to steal than to earn. But the homely adage is true, 'Ill-gotten wealth seldom 'prosper.' Samuel Johnson said of these practices, that they extinguish those sensations which give man confidence in man, and make the physician more dreaded than the gout or stone. Were the so termed discoveries made by the torturers of animals far greater than they are, the physical gain to the human race can never balance the moral evil generated by their cruelties. Science can never make an adequate gain by practices which demoralise the minds of those who perpetrate them, and who, moreover, at last sometimes take, as a distinguished surgeon, Sir Philip Crampton, has said, an insane gratification of cruel lust in perpetrating what has been called the 'Crime of Fools.' This groping, with a lanthorn and a fork, in the gutter of a shambles, can never elevate mankind. To torture an innocent creature to death, be that creature man or other creature, is a wrong, and in the latter instance a most dastardly wrong. Those beings who stretch animals on the rack, and inflict countless ingenious refinements of agony on creatures which they get within their power, would, it seems probable, do the very same to their own particular species did they dare. It has been done, and may be done again. At Montpellier, physicians dissected criminals alive; and even in

this country suspicions connected with Baby-farms have arisen. We are told that the bodies of dead animals in a hospital have been packed up with the bodies of anatomised subjects in the coffins of the latter. The money given by the benevolent public to hospitals for the cure of patients appears to be to some extent misappropriated. Money given to cure the sick, to assuage pain, is expended in inflicting torture on animals. The yearly Prospectuses issued by the authorities of the Medical Schools are evidence which cannot be successfully denied; and are not these practices enjoined by the examining and licensing bodies and Council of Education? A practice wanting in dignity, as it is carried on with closed doors, is contrary to law, and demoralising to thousands of students. I might mention, perhaps, the Brown Institution and Guy's Hospital, as cases in point. This moral contagion may well spread, and what has been done in America may be done here, and the very poor and friendless be experimented on.

No hard and fast line can be drawn, we are told, between man and animals as to their physical nature. Can such a line be drawn morally? We say, no. Will any Vivisectionist propose to torture to death on the score of utility, idiots, foundlings, paupers, or even criminals? How then can it be justifiable to torture an animal? Not on the score of mind; for an animal has mind, an idiot or an infant has none. The plea of knowledge to be obtained is no excuse; the good of humanity is no excuse. We have more knowledge already than we use for good. Every man, more or less, knowingly does wrong. A moral reform and

the diffusion of knowledge are required far more than increase in knowledge. What practical follies are still generally practised by society! Look at the moral injury and the waste of wealth by drink! Look at the cruel and silly bearing-rein! If every man always spoke the truth, and tried to do as he would be done by, the happiness of the world would be vastly increased, almost infinitely more so than by any physical discoveries which have ever been made. Edmund Burke, even said, that the manners of a people were more conducive to its happiness than were its laws. 'The gods are just, and of our pleasant vices 'make instruments to scourge us.' No scientific armour will ever protect mankind from their thongs, any more than from the sting of conscience and the agonies of remorse. Folly, vice, ignorance, dirt, and selfishness create disease. To torture animals to escape the natural penalty of viciousness, is ridiculous. It is striking at the effect and not the cause. The degradation of mind, which accrues from these cruelties has been well proved in the instances of Spalanzani, Brachet, &c., and we believe by the French, as displayed in their unnatural experiments on hybridism. Such, must inevitably tend to blunt the moral sense, and lead to the ultimate destruction and downfall of a nation. The words of an illustrious writer apply to Vivisectors, 'Man has a glimmering of heaven's light. 'He calls it reason, and uses it only to be the most 'brutal of brutes,' the words of the most intellectual of the Germans. Man is cruel. Read his history, written by himself. Southey termed it a 'chronicle of crime.' Shakspeare says, 'The Earth is wronged by man's op-

'pression.' Thomson says, 'Oh man! Tyrannic lord!
'How long, how long shall prostrate Nature groan
'beneath thy rage, awaiting renovation!' Pope called
him, 'Foe to Nature;' and Burns wrote of him:

'But Man, to whom alone is given
'A ray direct from pitying Heaven,
'Glories in his heart humane—
'And creatures for his pleasure slain.'

And again:—

'Plumes himself in Freedom's pride,
'Tyrant stern to all beside.'

The conduct of the ruthless Spaniards towards the unoffending races of America is a case in point. They considered them as animals; and the Pope, to protect them, issued a bull asserting that they had souls, and were not to be treated as mere beasts of burden. The negro was regarded very much in the same way. And dire as were the cruelties of the slave ship, the 'Legrees' of these poor wretches have been equalled by the torturers of the dumb. In the laboratory of the Vivisector, screams, looks for mercy, appeals for compassion, cries for help, convulsions of agony, are disregarded, and never heard beyond its walls! The Vivisectors have disclosed awful scenes of cruelty; but what are those which they have never told! All this iniquitous torture of our weaker fellow-creatures tends to the incarnation of evil, namely, intellect divorced from moral principle. How can mercy form part of religious instruction, in the face of such education as is conveyed in Professor Huxley's 'Elementary Physiology for 'Boys and Girls!'

The practice of Vivisection, strikes some minds as

unnatural; as absurd as it would be for an analytical chemist to pick to bits, and test, and scrutinise under the microscope, a Titian or a Turner, in the hope of discovering their systems of colouring and design. Nevertheless, these purblind gropers in the entrails of animals, who begin by theft, (for we hear they obtain their miserable victims from some slave in Seven Dials or St. Giles's, or the purlieus of Leadenhall Market, who brings the poor beasts, under cover of the night, to the laboratories; they thus consort and shake hands with some of the basest of mankind,) who begin by breaking the law, doing these things under the cover of secrecy, go on day after day, month after month, year after year, torturing and murdering, callous and heartless, without pity, love, or fear; and are capable, (their lives prove it,) of tying down and torturing, (were it possible to prevent its taking refuge in death,) the same suffering creature for fifty consecutive years. Whether they torture fifty for one year a-piece, or one for fifty years, what is the difference? Is this justifiable on any pretext whatever? Such beings are more detestable than the other bigots of the Middle Ages, and, (as we are informed the late gentle and gallant Sir Hope Grant stated,) 'deserve 'to be put to death.' Too many physiologists seem to fancy that the remotest prospect of a discovery useful to human beings will justify the infliction on the lower creation, as it is called, of the most excruciating pain. That position we believe to be untenable before a tribunal to which we are all amenable, however the matter may stand in a Court composed of our human fellow-creatures.

We would earnestly request the Commissioners to make especial inquiries of notorious Vivisectors, (I shall repeat myself a little here, but very little,) with regard to what they themselves individually have discovered by means of vivisection; not what they affirm has been discovered, but what each one of themselves has personally found out of benefit to the human race; the opinion of independent witnesses being also ascertained as to whether the so-termed discoveries are really discoveries or not; and, moreover, whether, in their opinion, such discoveries, if they are esteemed so by professional and other competent and impartial witnesses, might not have been otherwise arrived at, or the so-called necessity for them be rendered nugatory by obedience to the moral and physical laws of God and Nature.

The Society for the Abolition of Vivisection has no connection with the Society for the Prevention of Cruelty to Animals, of Jermyn Street, but deeply regrets the supineness of its executive, for years past, on the cruelties of Vivisectors. Neither has it any connection with the new association, termed the 'Society for the Protection of Animals liable to Vivisection,' as the object of our Society is not permission, but the total prohibition and suppression of the torture of living animals. Any scheme for permitting and then 'regulating' scientific cruelties, the Society for the Abolition of Vivisection deems to be doing evil in the fallacious hope that good may come; and it denounces strongly all legislation that will license cruelty under whatever pretence, or repeal in any degree the Magna Charta of Animals, 12 & 13 Victoria, chap. 92,

as to do so is palpably protecting the wrongdoer, and actually diminishing the protection to the animal creation which the existing Laws of England afford. The regulation by law of cruelty, is an unjustifiable and retrograde movement. Better let the Law remain exactly as it now is, and *enforce* it, than enter into any compromise with those who advocate the infliction of systematic and unnumbered miseries in the name of science, on the helpless, dumb creation of our Common Parent. High medical and physiological authorities have given it as their opinion that researches carried out on the mangled or tortured bodies of living animals are of no value, or even worse than useless, inasmuch as they actually lead into error. From Celsus to Nélaton, eminent physiologists, medical practitioners, and others, have condemned vivisection. Gall, Cuvier, Sir Charles Bell, Sir Philip Crampton, Dr. John Reid, Golding, Dr. Hull, McWhirter, Macilwain, and numbers of other scientific, medical, as well as literary men of the highest intellect, endorse these views as to its uselessness. Sir William Fergusson * recently stated, on oath, 'I do not perform experiments myself; formerly 'I did, but I now regret them.' It is a belief with many persons, including even medical men, that Harvey discovered the circulation of the blood, Hunter the cure of aneurism, and Bell the nature of the nervous system, by vivisection. The belief is erroneous.

The Society for the Abolition of Vivisection states it, as its conviction, that the present time is premature for

* Sir William Fergusson, Bart., F.R.S., LL.D., &c., Serjeant-Surgeon to Her Majesty the Queen.

legislation, inasmuch as the nation is but slightly informed of the existence, extent, and nature of vivisection. Till that be effected, there is no base of operations, no fulcrum whereon to place the lever that can move Parliament. The Vivisectionists are wise in pushing on the Parliamentary conflict ere a public opinion has had time to grow, and spread, and be a power. We want, first and most, a wide diffusion of the horrid details. We should then gain an overwhelming force. This is in some measure proved by thousands of letters received by the Abolition Society from various parts of the kingdom, and from abroad; breathing the utmost sorrow, indignation, horror, and disgust at the atrocities published by the Society; atrocities perpetrated in England and Scotland, and the accounts of which have in great measure been extracted from the books of Vivisectors themselves. As to the assertions which have been made, that the Society's statements have been hastily prepared; such assertions not only are incorrect, but utterly contrary to the truth, and calculated to give a most erroneous impression. No statements made by the Society for the Abolition of Vivisection have been otherwise than accurate. When challenged, they have been made good; and the published correspondence with Dr. J. Crichton Browne, Professor Ferrier, Professor Rutherford, Sir John Rose Cormack, M.D.—and that in the 'Standard,' 'Daily News,' 'Morning Post,' 'Echo,' 'Globe,' 'Jewish Chronicle,' 'Scotsman,' and other newspapers—has worsted every antagonist who has met the Society openly in the field.

As to Lord Henniker's Bill for Licensing Vivisection

tion, it had neither the sympathy nor the support of our Society, and we so stated in the 'Times.'

The Society for the Abolition of Vivisection earnestly appeals to those who prefer to protect the Dumb Creation to the uttermost, rather than adopt specious remedies for the prevention of cruelty, or embrace any mischievous projects of expediency; and so long as it continues to receive the support of the Public, and is encouraged to persevere, it will oppose to the uttermost all compromise with these barbarous and demoralising outrages on Nature, on the sentient creatures of our Almighty Father. To this end the Society will neither ask nor accept anything less than a Total Prohibition of Vivisection, or the mangling living animals with saws and dissecting-knives, and subjecting them to other inhuman, elaborate, and prolonged sufferings.

Those are the remarks which I had to make; and I wish to say this in conclusion. I had not an opportunity given me to answer a question put on a previous occasion here by the author of an Educational book for the Young, termed, 'Lessons in Elementary Physiology.' The question was, 'What was the object in reading 'passages from it?'' I am desirous, on the part of our Society, of answering that question. Do you wish me to answer it?

6476. I understood you wished to answer it?—I do wish to answer it.

6477. Will you be so good as to do so?—The object is, (as the Society has a strong aversion to the book, as dangerously qualified to vitiate and demoralise the minds of the young,) to prove from the book itself how Vivisection is spreading through the Land, and how the

rising generation in this Kingdom is being actually taught vice, and that vice the worst—namely, cruelty, (Cowper says, ‘The most devilish of them all,’) by the infliction of torture on domestic animals; moreover, to publish to the world how callous a Member of the Commission is, which has been expressly appointed by Her Majesty to inquire into the extent of these cruelties.

6478. You have made these statements on behalf of the Society; is that so? *—Yes.

6479. Were they adopted at any meeting of the Society?—I do not think I am called upon to answer questions in regard to the internal arrangements of our Society.

6480. You decline to do so?—I do.

6481. *Mr. Forster*: You are aware that you have stated over and over again in the course of your evidence that you speak on behalf of the Society?—I do; I am the Honorary Secretary.

6482. Have you read to any Committee of the Society the statements that you have made to-day?—I will answer your question in the same way in which I just answered it to Lord Cardwell. In regard to the private arrangements of our Society I decline to answer questions.

6482*a*. Do I rightly understand you to decline to give us any information as to what extent, and in what manner, the Society is responsible for what you say?—

* This question was uncalled for, if not disrespectful, inasmuch as the Commission had, by letter on the 9th of October, 1875, invited me to attend and ‘give evidence before it on behalf of the Society for the ‘Abolition of Vivisection.’—G. R. J.

I have given my answer already; I decline to say anything further.

6483. *The Chairman*: You decline to mention the name of any other party than yourself who is responsible for these statements?—You have put the question to me, and I have answered it.

6483a. *Mr. Huxley*: I must put a question of the same kind, because I am familiar with the organisation of Societies, and know the circumstances under which Societies of credit and authority act. It is for the witness to make up his mind whether he will answer the question or not; but I shall put a question, or rather a series of questions, to him. My first is, when was the Society instituted? answer that.—I have no objection to answer that. I cannot say for certain, but you will see the advertisement in the ‘Times,’ if you look back.

6484. I have asked you, as Honorary Secretary for the Society, when the Society was instituted?—I believe that will tell you better than I can, for I do not remember the date.

6484a. Was it this year or the year before?—This year.

6485. Has any General Meeting of the Society ever been held?—What do you call a ‘General Meeting’?

6486. Every person who understands the organisation of respectably-conducted Societies——?—Do you mean to infer that ours is not one?

6487. I do nothing of the kind. On this occasion I must ask you to be so good as to confine yourself to the grammatical construction of my words?—I confine myself to the grammatical construction of your words,

and the natural inference from them. I have met with something already here, and will not submit to anything further.*

6488. I have now to inform you that I put these questions to you for the purpose of enabling you to understand that I have no intention of suggesting anything whatever about your Society, except that it may be conducted with propriety, so far as I know; but I desire to learn, not only for my own information, but for that of the public, which is very much interested in this matter, whether this Society, in the name of which you have over and over again solemnly professed to act, and of which you have declared yourself formally to be the representative, is a Society organised in the manner in which all respectably-organised Societies are organised. I therefore ask you the question whether you have ever had a General Meeting?—I do not know what you mean by ‘how respectably-organised Societies are organised.’

6489. I am perfectly familiar with the organisation of all the most important scientific Societies in London; I call those respectable Societies; and I wish to ascertain whether your Society, the respectability of which I do not doubt, is organised in the same fashion?—I do not know how those are organised, therefore it is impossible for me to tell you.

6490. I now ask you whether you have ever had a General Meeting of your Society?—We have had a Meeting of the Committee, some members of it.

6491. *The Chairman*: Have you any objection to

* This is an allusion to Mr. Huxley's behaviour on a previous day. See p. 41.—G. R. J.

state whether the Society has ever had a General Meeting?—I have answered the question. I said that there had been a meeting of some members of the Committee.

6492. Have you any objection to say how many?—Yes, I have; because I think you are getting very inquisitorial in regard to the private concerns of the Society, with which I do not see, (I speak with all courtesy,) that you have anything to do.

6493. You consider that the constitution of your Society is a matter of private concern, with which the public has nothing to do?—I have given my answer.

6494. *Mr. Forster*: You have not answered that question?—I think I did.

6495. *The Chairman*: My question was this: You consider that the constitution of your Society is a matter of private concern, with which the public has nothing to do?—Yes.

6496. *Mr. Huxley*: I now would ask by whom the Committee was appointed?—I think that all this is very idle talk. I do not see that it concerns anybody how the Committee was appointed at all.

6497. Is that your answer to my question?—Yes, it is. You can see the names of the Committee advertised in the papers—at least, they have been very frequently; and the Committee which was first appointed still remains the Committee of the Society; and I must request you, if you have anything to say similar to that which you have just been saying, to communicate with them. Perhaps you had better write to Sir George Duckett, Bart., Weald Manor House, Oxfordshire.

6498. I wish to have your answer or refusal?—I have given you my answer, and have nothing else to say.

6499. Is there any treasurer to the Society?—Well, what is that to you? You are not a subscriber to it.

6500. Have the accounts of the Society ever been audited?—I really shall not answer any more questions of this sort. I beg you will take that answer once for all. I consider them exceedingly inquisitorial. You have no more right to put questions to me like that than you have to ask what money I have in my pocket, or what I am going to have for dinner.

6501. *The Chairman*: You have given us on several occasions what you have told us to be the views of the Society?—Yes.

6502. Do I correctly understand you, that now when we inquire what the constitution of the Society is, you think it an inquisitorial mode of examination, and decline to give an answer?—Most decidedly.

6503. *Mr. Huxley*: The only further questions I have to put are questions on which I am sorry to occupy the time of the Commission——?—Do not do it then.

6504. *The Chairman*: There must be a certain amount of courtesy on your part. You have experienced a great deal of patience from us, and you must now be so courteous and so mindful of the duties of a witness as to listen to the questions of a Commissioner, and not interrupt him.—Allow me to answer that remark. I do not think I have laid myself open to any such remark as you have just made about courtesy, however it might apply to the other side. And as to one of the Commissioners, he said he was sorry to take up your

time with asking a question. Then why should he do it? My time is of some consequence as well as that of other persons; and when you speak of me coming here as if I was come here as a matter of favour, I come here to better inform you. Her Majesty's powers, granted to you, expressly state that; and I ought to be received here, and every witness, with the greatest courtesy. We are here to discharge a public duty, not here for pleasure or for profit. I come here not only at an inconvenience to myself, but at positive risk to my health, as I have told you before.

6505. What you are asked to do is to listen to the end of a question before you answer it, and not to interrupt it with an answer.—I should, under ordinary circumstances; but he stated that he was wasting your time, or words to that effect, by asking it.

6506. *Mr. Huxley*: If the witness had waited till the end of my question, he would have heard that, in my judgment, it is a waste of time to put the question which I am about to put, but that, as my silence may be misrepresented, I proceed to put that question. Now, in order to remove this matter entirely from the personal region into which it might drift, I may remark that the witness referred just now to certain 'Lessons 'in Elementary Physiology,' by Thomas H. Huxley. I wish to know upon what grounds the witness bases the statement which he made at the end of his remarks, that this book recommended the practice of Vivisection to young people in schools?—My former evidence will answer that, in which I read quotations from that book.

6507. In those quotations there is nothing but a description of certain experiments, and of the results

which followed from them, given with the intention, as is obvious from the book itself, of impressing the results of those experiments, which are of great importance, distinctly upon the minds of the students. So that, on the face of it, it does not appear that the account of such experiments encourages Vivisection. Is there any distinct encouragement in the book of Vivisection—anything beyond what you have just cited?—Most distinctly, I think.

6508. In what passage?—'Those that I have quoted.

6509. A passage is quoted in the evidence which you have already given to this effect: 'For the purpose of acquiring a practical, though elementary, acquaintance with physiological anatomy and histology, the organs and tissues of the commonest domestic animals afford ample materials.' Is that, in your judgment, an encouragement to Vivisection?—You must take it altogether. The whole of it certainly is.

6510. I request a distinct answer to that question?—I would like to have a proof of my former evidence before me. I have not yet examined that proof, and therefore I do not know whether it is accurate or not.

(The proof was handed to the Witness.)

6511. The passage in your evidence to which I call your attention is this: 'In the preface to the second edition I find: "As the majority of the readers of these lessons will assuredly have no opportunity of studying anatomy or physiology upon the human subject, these remarks may seem discouraging. But they are not so in reality. For the purpose of acquiring a practical, though elementary, acquaintance with

“physiological anatomy and histology, the organs and tissues of the commonest domestic animals afford ample materials.” Do you consider that passage to inculcate or suggest Vivisection?—It gives a strong impression to that effect; and, coupled with the extracts which were taken from the work elsewhere, they certainly have left a most decided impression upon me that that book does what I say.

6512. Is Vivisection of the smallest use in the study of Anatomy?—As I said, I came here at the request of the Commission; I did not tender myself as a witness; and, as I first stated, I do not attend here as a medical or scientific witness, and I do not wish to be entangled by any professional questions of that sort, or any other. Whether Vivisection is a benefit to Medicine, or not, I leave abler men to decide. I have given you the opinions of many abler men, who say that it does not do good, on the contrary, that it propagates error.

6513. You have based a charge here upon a definite passage in the work of the writer. You are therefore bound to show that you understand what the language which you charge with a certain effect means. I now put to you a question for the purpose of inquiring whether you really do know what it means, and I ask whether there is anything there to show, and whether you hold the opinion, that Vivisection is of any good for anatomical purposes purely?—That I consider a question not to the point.

6514. I ask you if you know what histology means?—I am not going to answer any professional questions, as I have said already.

6515. *The Chairman*: But you have made a charge against this book that it has a certain tendency, and the object of these questions is to discover upon what that charge rests?—It rests upon these passages.

6516. Then, to push it a little further, do you consider that anatomy has anything to do with experiments upon living animals?—As I said before, these professional questions I must decline to answer. I stated, (I must say it once again,) when I acceded to the request of the Royal Commission to attend here, that I should do so not as a medical or scientific witness. Now, that question is a question for a medical or scientific witness.

6517. No; what I want to know is simply this. A charge has been made by you against the writer of that book?—Most decidedly.

6518. You have quoted certain extracts as proving that charge?—Most decidedly.

6519. You are therefore asked whether you put a certain construction upon those extracts?—I do.

6520. You understand those extracts as recommending experiments upon living animals?—Most decidedly.

6521. And it was because you understood them as meaning experiments on living animals that you condemned them?—Most decidedly.

6522. If, therefore, they should not have that meaning, I presume your condemnation would fall to the ground?—You ask me what I consider to be an impossibility. It struck my mind as plainly as anything can do, that that book certainly does advise young people to make experiments upon living domestic animals, and

I do not think that any fair and candid man of common sense can think otherwise.

6523. That is the ground upon which the charge is rested?—Yes, most decidedly; the charge is made upon the book itself.

6524. *Mr. Huxley*: The second passage which is quoted is this, (I will not read the whole of it, because the first is quite sufficient for my purpose): ‘If, when
‘ the cord is cut across in an animal, the cut end of the
‘ portion below the division, or away from the brain, be
‘ irritated, violent movements of all the muscles supplied by nerves given off from the lower part of the
‘ cord take place, but there is no sensation.’ Do you think that is evidence that I would have encouraged a young person to make that experiment? I do not want any wire-drawing about it; take the thing in the full.—You have had my opinion upon it, upon all the passages put together.

6525. I take that passage and ask you whether you consider that is evidence that I wished to encourage young persons in Vivisection?—If that is one of the passages which I quoted on a previous occasion, I quoted it with that view; and every one of them.

6526. Now, then, I will take you, if you please, to a passage which you have not quoted out of the same work. The passage is at page 12 of the fifth edition, and runs thus: ‘If the upper arm of a man whose arm
‘ is stretched out be tightly grasped by another person,
‘ the latter, as the man bends up his forearm, will
‘ feel a great soft mass, which lies at the fore part of
‘ the upper arm, swell, harden, and become prominent.
‘ As the arm is extended again the swelling and hard-

'ness vanish. On removing the skin, the body which thus changes its configuration is found to be a mass of red flesh sheathed in connective tissue.' Are you of opinion that that passage suggests that boys and girls should remove the skin from one another's arms?—I do not know. I never thought of it before. I should like to take it home and look it over.

6527. The book is accessible to you. I now take you to page 16 of the same work: 'Let any person in the erect position receive a violent blow on the head, and you know what occurs. On the instant he drops prostrate in a heap, with his limbs relaxed and powerless.' Do you think that is an encouragement to boys and girls to knock one another on the head?—I do not know. It has rather a tendency that way, I should think, if they are experimentally inclined.

6528. *Mr. Erichsen*: You made a statement with regard to the expenditure of funds of Hospitals, about which I should like to have some definite information. You stated that money given to Hospitals to cure the sick is expended to torture animals. That is the substance of what you stated?—What I said was, that money given by the benevolent public to Hospitals for the cure of patients, appears to be, to some extent, misappropriated. Money given to cure the sick, to assuage pain, is expended in inflicting torture on animals.

6529. Will you give me a single instance in which that money has been so misappropriated?—If you get the Prospectuses to which I allude, issued by the authorities of the Medical Schools, (which you know, of course, very well,) you will find statements as to experiments being performed on living animals.

6530. Do you believe that the money required for those experiments comes out of the funds of the Charity?—That is the impression that I have, certainly, and that many other people have.

6531. Are you aware that the funds expended by the Medical Schools for the maintenance of those Medical Schools, for every purpose connected with experiments in those Medical Schools, are paid out of the fees of the students belonging to those Schools; and that those constitute funds totally distinct from those that are appropriated to the Charity, and that are subscribed by the public to the Hospital as a Charity?—I do not understand you to say that, taking one of those Prospectuses, (I have not got them in my mind at this moment,) you call in question that it is so as to experiments upon living animals. You see the name of Dr. So-and-so; and then it says that experiments will be performed on living animals, to show the action of the heart, or something or other. Now, do I understand you to say that the money which pays for the animals that are provided for that purpose does *not* come out of the funds of the Hospital?*

6532. I want you to give me an instance in which it does. You state, broadly, that the funds are misappropriated, and I ask you to give me a single instance. No man can make a general sweeping charge against all the Medical Charities of this country without, I presume, some definite ground to go on; and I want you to tell me the ground on which you go when you make that sweeping charge against the Hospital

* Let the Reader observe that Mr. Erichsen did not answer this question.—G. R. J.

authorities of this country?—The statement is made upon the strength of Prospectuses—or whatever is the term for them—yearly Prospectuses of these Hospitals, in which it is stated, (it has been so in several cases, though, I think, they have left them out of last year's. I know it has been so in one of them, where the statement appeared before they have taken care to leave it out,) that experiments are performed on living animals.

6533. *The Chairman* : But have you any fact to state that bears out the assertion that money contributed to the relief of the sick is applied to the purposes of experiments?—Surely. Where does the money come from?

6534. But do you know of any case?—I go upon the fact of their own Prospectuses. As they do spend money in that way, I suppose they do not spend it out of their private pockets.

6535. *Mr. Erichsen* : Are you aware that the funds of all Medical Schools connected with Hospitals are totally distinct from the funds of those Hospitals as Charities?—I am not aware of anything of that kind.

6536. Then, before you made that statement, do you not think that it would have been well to have made yourself acquainted with the source from which the funds that go to Medical Schools come?—I made it from the statements of the Hospitals themselves. As the money does not come, I presume, out of their private pockets, it is a fair inference that it comes out of the funds of the Hospitals.

6537. Are you not aware that medical students pay

fees? If you look at these Prospectuses, you will see a schedule of fees that they have to pay for each class which they enter, and is it not reasonable to suppose that the funds for the purpose of experiments come out of those fees, and not out of the funds of the Charity?—I do not know at all.

6538. *The Chairman*: At any rate, you have no information on that point?—I will just refer to some notes given to me by Medical men, and perhaps I shall be able to give you something more definite. (*The witness referred to his notes.*) The statement is based, as I said, upon the Prospectuses issued by the Hospital authorities; at least, I presume they are issued by them. You can buy them in shops.

6539. But you have no knowledge of any particular case in which experiments have been paid for from any funds which were contributed for the relief of the sick?—You mean to ask whether I am aware of any money being handed over to buy a dog or a cat to be dissected alive, or not?

6540. I mean whether you know of any single case which furnishes an example of that general statement which you have made—any single case in which the fact took place?—The statement is based upon the Prospectuses issued by themselves; those Prospectuses show that they perform experiments upon living animals, and that seems to be held out as a source of attraction.

6541. But do you not perceive that there is a complete distinction between saying that experiments on living animals are performed, and saying that the expense of that proceeding is paid for out of the funds

contributed for the Hospitals?—I do not think it matters very much where it comes from, as long as the thing is done.

6542. But the statement is that the funds are misappropriated from the purpose for which they were contributed. • Do you not think it makes a difference if it turns out that those funds are wholly applied to the purpose for which they were contributed?—Most decidedly I should think so.

6543. Then, I ask, are you aware of any single case in which that has not been so?—I go upon their statement that they spend their funds, (for they cannot do it without funds,) in the torture of animals.

6544. *Mr. Erichsen*: I must press this question. You have made the gravest possible charge, not against the medical officers of the Hospitals, who have nothing to do with the distribution of the funds, but the gravest possible charge against the great body of treasurers and governing bodies of Hospitals in this country that can possibly be made against any body of gentlemen, namely, that they have misappropriated funds entrusted to them for the cure and relief of the sick, to the performance of experiments upon animals; and I ask you to give me one single instance in Great Britain or Ireland by which you substantiate that charge against these gentlemen, who are not members of the Medical profession, and who have no connection with the Medical profession?—You do not deny that those experiments are performed?

6545. I ask you, yes or no, or to give me an instance?—I say, then, that my answer is based upon the Prospectuses of those Hospitals where they say that

living animals are experimented upon. The funds, therefore, must come out of the concern somehow.

6546. I would ask you further, whether it would not have been wise for you, before making that sweeping charge, to have made yourself acquainted with the fact that those Prospectuses are issued by the Medical Schools in connection with the Hospitals, and that the funds of those Schools are totally distinct from the funds of the Charities? I would ask whether it would not have been wise for you to have ascertained that first of all?—I do not know. In this matter there is a great difficulty in arriving at information, and I might have tried a long time before I got any information on the subject. There is the simple fact that it is stated in these Prospectuses of Hospitals that experiments are performed on living animals, and we draw the very natural conclusion that the money for so doing is taken out of the funds of the Hospitals.

6547. Would it not have been quite sufficient to have written to the treasurer of any one Hospital in connection with which such a Prospectus is issued, and to have asked him to afford you, for your Society, information upon that subject?—I do not suppose we should have received it. We have been very often baffled in trying to get information.

6548. Do you believe that the treasurers would mislead you?—I do not know; but I know that these practices are performed in secret. I am told that the doors are closed, and that strangers are not admitted; and therefore I do not think it probable that they would be communicative on the subject.

6549. I am not speaking with reference to the

medical teachers in the Schools. The charge which you have made does not affect a single Medical man in the kingdom; but it affects the treasurers of Hospitals in the country?—I have nothing further to say.

6550. You have also stated that the Medical Colleges and Councils either sanction or advocate Vivisection. Are you aware that the Council of the College of Surgeons in London expressly states in its Prospectus that Vivisection is not required in Physiological Laboratories?—No, I am not. Is that so?

6551. Most decidedly.—I am very glad, indeed, to hear it. It is a sign, I hope, of better days.

(The Witness withdrew.)

FINIS.

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CORRESPONDENCE.

[Copy.]

SOCIETY FOR THE ABOLITION OF VIVISECTION.

SIR,

Henbury, Macclesfield, February 12, 1876.

This Society, seeing it stated in the newspapers that the Report of the Royal Commission on Vivisection has been presented to Parliament, respectfully requests information as to the proper course to obtain, as soon as possible, a copy of the same.

I remain, Sir, your obedient servant,

GEORGE R. JESSE,

Honorary Secretary.

NATHANIEL BAKER, Esq.,

Royal Commission on Vivisection,

13, Delahay Street, London, S.W.

SIR,

Vivisection Commission,
13, Delahay Street, February 14, 1876.

I beg to acknowledge the receipt of your letter of the 12th instant, and to reply, that when the proceedings of a Royal Commission have been made public, a copy of the Blue Book may be purchased through any bookseller.

I have the honour to be, Sir,

Your most obedient servant,

NATHANIEL BAKER,

Secretary.

G. R. JESSE, Esq.,

&c., &c., &c.

[Copy.]

SOCIETY FOR THE ABOLITION OF VIVISECTION.

SIR,

Henbury, Macclesfield, February 14, 1876.

This Society begs leave to inquire if Her Majesty's Government will oblige it with a printed copy of the Report of the Royal Commission on Vivisection.

I remain, Sir, your obedient Servant,

GEORGE R. JESSE,

Honorary Secretary.

The Right Hon. BENJAMIN DISRAELI,

&c., &c., &c.,

London, S.W.

SIR,

10, Downing Street, Whitehall, February 16, 1876.

I am directed by Mr. Disraeli to acknowledge the receipt of your letter of the 14th inst., and to inform you that the Report of the Royal Commission on Vivisection, although presented, has not yet been circulated, and that therefore, the Prime Minister has no copy in his possession at the present moment.

It appears, on inquiry, that it is not the practice of the Treasury to present Blue Books to Societies or individuals not connected with the Government.

The cost of a copy is not excessive, and they can always be obtained at the Parliamentary booksellers, 32, Abingdon Street, Westminster, or ordered through any other bookseller.

I have the honour to be, Sir,

Your obedient Servant,

ALGERNON TURNOR.

The Secretary to

The Abolition of Vivisection Society.

[Copy.]

SOCIETY FOR THE ABOLITION OF VIVISECTION.

SIR,

Henbury, Macclesfield, January 21, 1876.

Pray oblige me by kindly stating when the Report of the Royal Commission, and the Evidence given before it, will be made public; also, by informing me when this Society will receive one or more copies of the same; and at what address the Report and Evidence will be open to inspection, or purchase, by persons desirous of perusing them.

I remain, Sir, your obedient servant,

GEORGE R. JESSE,

Honorary Secretary.

NATHANIEL BAKER, Esq.,

Royal Commission on Vivisection,

13, Delahay Street, London, S.W.

SIR,

Vivisection Commission,
13, Delahay Street, January 22, 1876.

I beg to acknowledge the receipt of your letter of the 21st instant, and to reply that the Report being made to Her Majesty, the publication will be made when in the discretion of Her Majesty's advisers it shall be so determined.

I am, Sir, your most obedient servant,

NATH. BAKER,

Secretary.

G. R. JESSE, Esq.,

&c., &c., &c.

[Copy.]

SOCIETY FOR THE ABOLITION OF VIVISECTION.

SIR,

Henbury, Macclesfield, January 24, 1876.

As your reply of the 22nd inst., on the part of the Royal Commission, does not contain the information requested by this Society, I beg leave to ask such information, or any part of the same, may be kindly communicated to me at the earliest day in its power.

I remain, Sir, your obedient servant,

GEORGE R. JESSE,

Honorary Secretary.

NATHANIEL BAKER, ESQ.,

Royal Commission on Vivisection,

13, Delahay Street, London, S.W.

SIR,

Vivisection Commission,
13, Delahay Street, January 25, 1876.

I beg to acknowledge the receipt of your letter of the 24th instant, and to reply that I am unable to give you any further information beyond what was contained in my letter to you of the 22nd instant.

I am, Sir, your most obedient servant,

NATH. BAKER,

Secretary.

G. R. JESSE, ESQ.







